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February 2, 2005

Ms. Suzanne Wilson  
Environmental Services Specialist  
City of Anaheim, Public Utilities Department  
201 South Anaheim Boulevard, Suite 601  
Anaheim, California 92805 .

Subject: Response Letter  
ARCO Facility No. 3023  
601 South Magnolia Avenue  
Anaheim, California

Dear Ms. Wilson:

On behalf of Atlantic Richfield Company, Delta Environmental Consultants, Inc. (Delta) has prepared this response letter for ARCO Facility No. 3023, located at 601 South Magnolia Avenue in the City of Anaheim, California (the Site; Figure 1). This letter was prepared in response to the September 28, 2004 meeting between Ms. Suzanne Wilson (Anaheim Public Utilities Department - APUD), Mr. Darrell Fah (Atlantic Richfield Company), and Mr. Bryan Van Wagner (Delta). During this meeting, additional clarification on the removal of MTBE through previous soil vapor extraction activities was requested. This response letter supplements the *Addendum to the Confirmation Soil Boring/ Request for Site Closure Report*, dated March 29, 2004 (Attachment A).

In order to address petroleum hydrocarbons and fuel oxygenates detected in soil during previous assessment activities, two soil vapor extraction events were conducted at this Site. A vapor extraction pilot test was conducted from January 31 through February 3, 2000 utilizing wells VW-1, VW-2, and VW-H as extraction points. The vapor extraction equipment used for the pilot test consisted of a Paragon ET-250 thermal oxidizer equipped with a positive displacement extraction blower. Analytical results of vapor samples collected from wells VW-1 and VW-H at the end of the pilot test indicated MTBE concentrations of 71 and 130 ppmv, respectively.

On December 6, 2000 vapor extraction activities were resumed utilizing a portable 250-scfm ENVENT thermal oxidizer equipped with two 2.0 hp extraction blowers. Initially, wells VW-1, VW-2 and VW-H were used as extraction points. Analytical results of vapor samples collected at the start of the SVE activities on December 6, 2000 indicated MTBE concentrations below a laboratory detection limit of 1.4 ppmv in all extraction wells.

A member of:



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During the September 28, 2004 meeting, APUD requested an explanation as to why MTBE concentrations decreased in wells VW-1 and VW-H from the end of initial pilot test conducted in February 2000 to the beginning of the extended SVE event conducted on December 6, 2000.

Delta evaluated operational data collected by England Geosystems during each of the SVE activities and site conditions which may have influenced MTBE extraction rates during each of the SVE events. Operational data collected during the initial pilot test are included in the *Vapor Well Installation and Vapor Extraction Test Report*, dated June 7, 2000, prepared by England and Associates. Available operational data collected during the extended SVE event are included in Attachment B. A comparison of operational data collected during the two SVE events is summarized below.

#### **Extraction Activities on Well VW-1**

At the end of the initial pilot test on February 3, 2000 wells VW-1 and VW-H were utilized as extraction points. At the beginning of the extended SVE event on December 6, 2000, wells VW-1, VW-H and VW-2 were used as extraction points. A comparison of the individual flow rates from well VW-1 measured during these two periods (end of pilot test activities on February 3, 2000 and start of extended SVE activities on December 6, 2000), indicates similar flow rates measured at well VW-1 during both events (108 and 110 cfm, respectively). A comparison of the extraction vacuum measured at well VW-1 during both events indicates a reduction on December 6, 2000. Vacuum at well VW-1 decreased from 65 inches of water in February 2000 to 20 inches of water on December 6, 2000. The different extraction equipment used for each event most likely contributed to the decrease in extraction vacuum measured in well VW-1. Positive displacement blowers, as used during the initial pilot test, are typically capable of higher vacuums.

Concentrations of MTBE measured in vapor samples collected from well VW-1 during the initial pilot test in January and February 2000 decreased from 1,300 to 53 ppmv. SVE from well VW-1 resumed on December 6, 2000. Analytical results of vapor samples collected from well VW-1 at 10:30 am on December 6, 2000 indicated no detectable concentrations of MTBE. SVE activities conducted during the initial pilot test in January and February 2000 may have removed MTBE in the immediate vicinity of well VW-1. Vapor samples collected from well VW-1 upon startup of SVE activities on December 6, 2000 confirmed the absence of MTBE in the immediate vicinity of well VW-1. During the extended SVE event in December 2000, SVE activities continued from well VW-1 through December 13, 2000. These continued extraction activities would have broadened the area of influence of SVE from well VW-1 and may have extracted additional MTBE from soil, however, no additional vapor samples were collected from this well during the second SVE event. Since no MTBE was detected in soil samples collected from confirmation soil boring SB-2 advanced in this area, it appears that MTBE in the vicinity of well VW-1 has been adequately remediated.

#### **Extraction Activities on Well VW-H**

At the end of the initial pilot test on February 3, 2000 wells VW-1 and VW-H were utilized as extraction points. At the beginning of the extended SVE event on December 6, 2000, wells VW-1, VW-H and VW-2 were used as extraction points. A comparison of the individual flow rates from well VW-H measured during these two periods (end of pilot test activities in February 3, 2000 and start of extended SVE activities on December 6, 2000), indicates a decrease of flow from approximately 136 to 64 cfm at well VW-H on December 6, 2000. During the extended SVE event, SVE activities were continued from December 6, 2000 through March 7, 2001 using wells VW-H and VW-2 as extraction points. During this period flow rates ranged from 64 to 200 cfm from well VW-H. The measured flow rate from well VW-H during this portion of the extended SVE activities were similar to flow rates measured during the initial pilot test conducted in January and February 2000. The additional extraction from well VW-2 during the beginning of the second SVE event probably contributed to the decrease in flow measured in well VW-H on December 6, 2000.

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ARCO Facility No. 3023

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A comparison of extraction vacuum measured at well VW-H during the two events indicates a decrease from 90 inches of water in February 2000 to 20 inches of water during the extended SVE event conducted from December 6, 2000 through March 7, 2001. The different extraction equipment used for each event most likely contributed to the decrease in extraction vacuum measured in well VW-H. Positive displacement blowers, as used during the initial pilot test, are typically capable of higher vacuums.

Analytical results of vapor samples collected from well VW-H during the initial pilot test conducted in January and February 2000 indicated concentrations of MTBE of 10, 290 and 130 ppmv. However, analytical results of vapor samples collected weekly from well VW-H during the extended SVE event indicated MTBE concentrations below a laboratory detection limit of 1.4 ppmv in all samples. Since no MTBE was detected in the 13 weekly vapor samples collected from well VW-H from December 6, 2000 through March 7, 2001, and no MTBE was detected in confirmation soil borings SB-1 and SB-2 (with the exception of 0.02 mg/kg at a depth of 35 feet bgs in boring SB-2), it appears that MTBE in this area has been adequately remediated.

### Potential Contributing Factors

A review of operational data obtained during the two SVE events could not provide a definitive explanation as to why MTBE concentrations decreased in wells VW-1 and VW-H from the end of initial pilot test conducted in February 2000 to the beginning of the extended SVE event conducted on December 6, 2000. During the initial pilot test, the observed radius of influence from extraction at wells VW-1 and VW-H were 80 and 60 feet, respectively. However, no radius of influence measurements were obtained during the extended SVE event.

Short circuiting of the vapor stream through faulty conveyance piping or a leaking well head manifold could decrease induced vacuum measurements and dilute measured concentrations of MTBE in the vapor stream. However, no indication of short circuiting could be observed during the review of data provided by England Geosystems. The similar flow rates measured at wells VW-1 and VW-H during the two events implies that no short circuiting was evident.

Delta also evaluated site conditions which may have influenced MTBE extraction rates. During the period between the two SVE events (February through December, 2000) approximately 8.6 inches of precipitation were recorded (CDWR). Increased soil moisture in the vadose zone would likely reduce extraction flow rates, increase the extraction vacuum and cause the dissolution of MTBE into groundwater. However, during the approximate same time period (February through December, 2000) groundwater elevations measured across the Site decreased an average of 1.36 feet (Delta 2004). Although, the screened interval of extraction wells VW-1 and VW-H were above each measured water level, the capillary fringe most likely extends above the screened interval of well VW-1. A change in groundwater elevation is proportional to a change in capillary fringe elevation. A decrease in the capillary fringe elevation would expose additional soil to SVE and allow for increased flow with less vacuum, potentially allowing for increased MTBE removal rates. However, a review of the operation data collected during the two SVE events indicates no direct correlation between groundwater elevations and measured flow rates, induced vacuum measurements, and MTBE removal rates.

Groundwater monitoring well MW-1 is located in the vicinity extraction wells VW-1 and VW-H. A review of historical quarterly groundwater analytical data indicates that concentrations of MTBE in samples collected from well MW-1 were generally greater than 100 ppb prior to conducting the initial SVE pilot test in January and February 2000. Analytical results of groundwater samples collected after the pilot test and before the extended SVE activities indicated a reduction of concentrations of MTBE in well MW-1. MTBE concentrations ranged from 2.3 to 30 ppb during the period between the two SVE events. Analytical results of groundwater samples collected from well MW-1 during the next 14 quarters after the extended SVE event indicated concentrations of MTBE below laboratory detection limits. This indicates that MTBE in soil has been adequately remediated and is no longer a source of MTBE in groundwater.

## **Summary**

Two soil vapor extraction remedial events were conducted at this Site. The first event was conducted for approximately 72 hours in early 2000 and the second event was conducted from December 2000 through March 2001. Based on the data reviewed, the extraction well network and flow rates were generally similar during both events. However, the different extraction equipment used probably resulted in the decreased induced vacuum measured during the extended SVE event.

During the first extraction event, an estimated 30 pounds of MTBE was removed and during the second event no MTBE was detected in collected vapor samples. A review of operational data obtained during the two SVE events could not identify an explanation as to why MTBE concentrations decreased in wells VW-1 and VW-H from the end of initial pilot test conducted in February 2000 to the beginning of the extended SVE event conducted on December 6, 2000. However, the estimated quantity of MTBE removed from the UST area during the first remedial event approximates the conservative estimated quantity of MTBE in soil remaining in this area after remedial excavation activities in April 1999. The observation that no MTBE was detected in vapor samples collected during the second remedial event indicates that extractable concentrations of MTBE were no longer available. This conclusion is reinforced by the results of confirmation soil borings advanced in April 2003. No detectable concentrations of MTBE were reported in any samples collected from soil borings advanced with in the former UST area or eastern dispenser island, with the exception of 0.02 mg/kg reported at a depth of 35 feet bgs in boring SB-1.

Based on these findings, the request for site closure outlined in the Confirmation Soil Boring/ Request for Site Closure Report, dated June 2, 2003 is appropriate.

## **Remarks/Signatures**

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are determined in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

If you have any questions concerning this project, please contact Bryan Van Wagner at 949-292-5080.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Bryan Van Wagner  
California Registered Geologist No. 5820  
Certified Hydrogeologist No. 0295



Response Letter

ARCO Facility No. 3023  
Anaheim, California  
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Attachments:   Figure 1           Site Location Map  
Attachment A   Addendum to the Confirmation Soil Boring Report/Request for Site Closure  
Attachment B   SVE Operational Data, December 6, 2000 – March 7, 2001

cc:           Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California  
Ms. Valerie Jahn-Bull, CRWQCB-SA, Riverside, California  
Mr. Fabio Minervini, England Geosystem, Inc., Irvine, California

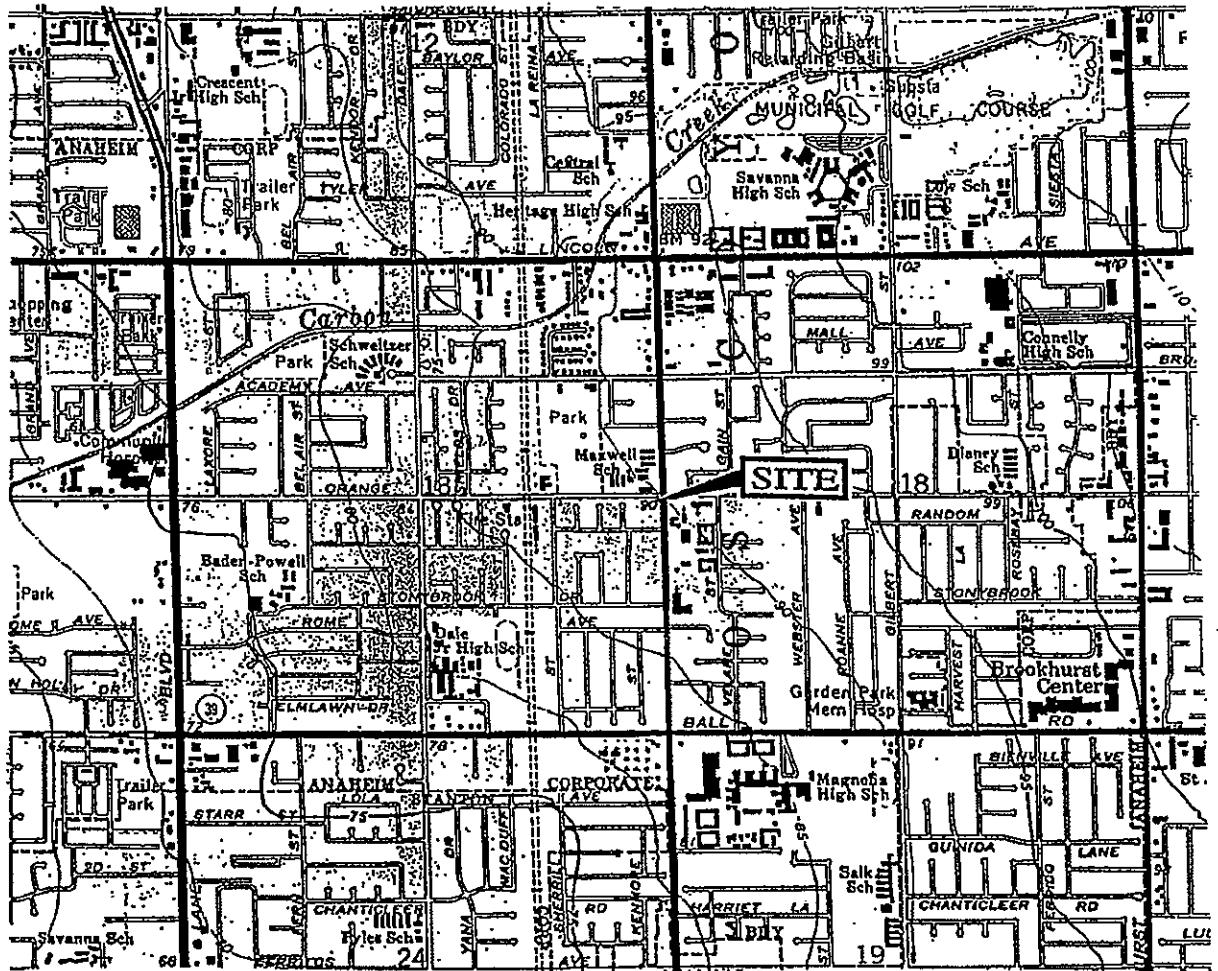
Response Letter

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Anaheim, California  
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**References**

CDWR, California Department of Water Resources, Division of Flood Management, ([cdec.water.ca.gov](http://cdec.water.ca.gov)) Santa Ana Fire Station measurements (2000 – 2001)

Delta 2004, Quarterly Update Report, ARCO Station No. 3023, 601 South Magnolia Avenue, Anaheim, California:  
Unpublished report dated October 30, 2004.



GENERAL NOTES:  
BASE MAP FROM U.S.G.S.  
ANAHEIM, CALIFORNIA  
7.5 MINUTE TOPOGRAPHIC MAP  
1965  
PHOTOREVISED 1981

FIGURE 1  
SITE LOCATION MAP  
ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA AVENUE  
ANAHEIM, CA

PROJECT NO.	DRAWN BY	
AM00-828		
FILE NO.	PREPARED BY	
	M. BALDWIN	
DATE	REV.	REVIEWED BY
10/21/02		



**ATTACHMENT A**

**Addendum Letter**



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March 29, 2004

Ms. Suzanne Wilson  
Environmental Services Specialist  
City of Anaheim, Public Utilities Department  
201 South Anaheim Boulevard, Suite 601  
Anaheim, California 92805

Subject: Addendum to the Confirmation Soil Boring/ Request for Site Closure Report  
ARCO Facility No. 3023  
601 South Magnolia Avenue  
Anaheim, California

Dear Ms. Wilson:

On behalf of Atlantic Richfield Company (ARCO), Delta Environmental Consultants, Inc. (Delta) has prepared this Addendum to the Confirmation Soil Boring/ Request for Site Closure Report, dated June 2, 2003. This Addendum was prepared to provide additional information regarding the removal of methyl *tert*-butyl ether (MTBE) detected in soil samples collected during previous assessment activities conducted at ARCO Facility No. 3023, located at 601 South Magnolia Avenue in the City of Anaheim, California (the Site; Figure 1).

#### MTBE in Soil

Assessments to evaluate the distribution of fuel-related hydrocarbons and/or oxygenates in soil and groundwater beneath the Site were initiated in August 1988. Assessment activities at the Site have included the advancement of nine soil borings (BC-1 through BC-6 and B-1 through B-3), installation of four groundwater monitoring wells (MW-1 through MW-4), and installation of three vapor extraction wells (VW-1, VW-2, and VW-H). In addition, soil samples were collected during underground storage tank (UST) removal activities in April 1999 and three confirmation soil borings (SB-1 through SB-3) were advanced in April 2003. The locations of all wells, borings, and soil sample locations are shown on Figures 2 and 3. Laboratory analytical results from soil samples collected during previous site assessment activities are summarized in Table 1.

Based on this data, MTBE-impacted soil was initially identified beneath the Site in the vicinity of the former USTs and eastern fuel dispenser island. The maximum historic concentration of MTBE (2,400 mg/kg) was detected in soil samples collected at 15 feet bgs from a sample collected from the former UST complex (TC-2-15). Soil within this area was over-excavated to a depth of approximately 20 feet bgs. Analytical results of soil samples collected from the base of the over-excavation revealed a maximum MTBE concentration of 45 mg/kg (TC-9-20).

A member of:



Analytical results of soil samples collected from borings advanced in the vicinity of the former USTs indicated the presence of MTBE at depths ranging from 20 to 35 feet bgs with a maximum concentration of 18 mg/kg. No MTBE was detected in soil samples collected from depths greater than 35 feet bgs in this area. A conservative estimate of the volume of MTBE present in the area of former UST area prior to the initiation soil vapor extraction is about 30 pounds. This estimate assumes soil beneath the former UST zone was impacted with MTBE at a concentration 30 mg/kg from a depth of 20 to 35 feet bgs.

Analytical results of soil samples collected from boring VW-2 advanced in the vicinity of the eastern dispenser island indicated detectable concentrations of MTBE at depths ranging from 15 to 25 feet bgs with a maximum concentration of 0.76 mg/kg. No MTBE was detected in soil samples collected from depths of 30 and 35 feet bgs in this area.

#### Soil Vapor Extraction Activities

In order to address petroleum hydrocarbons and fuel oxygenates detected in soil during previous assessment activities, two soil vapor extraction events were conducted at this Site. A vapor extraction pilot test was conducted from January 31 through February 3, 2000 utilizing wells VW-1, VW-2, and VW-H as extraction points. Wells VW-1 and VW-H are completed in the area of the former UST's. Well VW-1 is screened from approximately 23 to 33 feet bgs, and horizontal well VW-H was completed at a depth of 20 feet bgs and contains a 45 foot length of screen. Well VW-2 is located in the area of the former eastern dispenser island and is screened from approximately 8 to 33 feet bgs. The vapor extraction equipment used for the pilot test consisted of a Paragon ET-250 thermal oxidizer equipped with a positive displacement extraction blower. The unit is capable of extracting vapors at a maximum flow rate of 300 cfm and a vacuum up to 200 inches of water.

Vapor extraction activities were conducted on well VW-1 for approximately 27 hours and flow rates ranged from 72.5 to 112 cfm. Analytical results of vapor samples collected from well VW-1 at the beginning, middle and end of the pilot test indicated concentrations of MTBE of 1,300, 560 and 71 ppmv, respectively. Based on these analytical results, an estimated 18 pounds of MTBE were removed from well VW-1 during this pilot test. Vapor extraction activities were conducted on horizontal well VW-H for approximately 27 hours and flow rates ranged from 136 to 178 cfm. Analytical results of vapor samples collected from well VW-H at the beginning, middle and end of the pilot test indicated concentrations of MTBE of 10, 290, and 130 ppmv, respectively. Based on these analytical results, an estimated 11 pounds of MTBE were removed from well VW-H during this pilot test. Vapor extraction activities were conducted on well VW-2 for approximately 39 hours and flow rates ranged from 101 to 119 cfm. Analytical results of vapor samples collected from well VW-2 at the beginning, middle and end of the pilot test indicated concentrations of MTBE of 24, 12 and 3.2 ppmv, respectively (England, 2000). Based on these analytical results, an estimated 0.6 pounds of MTBE were removed from well VW-2 during this pilot test.

In December 2000, vapor extraction activities were resumed utilizing a portable 250-scfm ENVENT thermal oxidizer equipped with two 2.0 hp extraction blowers.

Initially, wells VW-1, VW-2 and VW-H were used as extraction points, however, well VW-1 was removed from the extraction well network after approximately one week because vapor concentrations were below laboratory detection limits for all analytes (MTBE <1.4 ppmv). The system was shut down on March 7, 2001 when the recovery rate from the remaining wells became asymptotic. Between December 6, 2000 and March 7, 2001, approximately 781 pounds of hydrocarbons were reportedly removed. During vapor extraction activities from December 6, 2000 through March 7, 2001 total combined vapor flow rates ranged from 168 to 244 cfm and no detectable concentrations of MTBE were measured in vapors extracted from any wells (England 2002).

### **Discussion**

Two soil vapor extraction remedial events were conducted at this Site. The first event was conducted for approximately 72 hours in early 2000 and the second event was conducted from December 2000 through March 2001. Based on the data reviewed, the extraction well network and flow rates were similar during both events. During the first extraction event an estimated 30 pounds of MTBE was removed and during the second event no MTBE was detected in collected vapor samples. The estimated volume of MTBE removed from the UST area during the first remedial event approximates the conservative estimated volume of MTBE in soil remaining in this area after remedial excavation activities in April 1999. The observation that no MTBE was detected in vapor samples collected during the second vapor extraction remedial event indicates that extractable concentrations of MTBE were no longer available. This conclusion is reinforced by the results of confirmation soil borings advanced in April 2003. No detectable concentrations of MTBE were reported in any samples collected from soil borings advanced with in the former UST area or eastern dispenser island, with the exception of 0.02 mg/kg reported at a depth of 35 feet bgs in boring SB-1.

Based on these findings, the request for site closure outlined in the Confirmation Soil Boring/ Request for Site Closure Report, dated June 2, 2003 is appropriate.

### **Remarks/Signatures**

The recommendations contained in this report represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This report is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this report were performed. This report is intended only for the use of Delta's Client and anyone else specifically listed on this report. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this report.

Addendum to the Confirmation Soil Boring Report/Request for Site Closure  
ARCO Facility No. 3023  
Anaheim, California  
Page 4

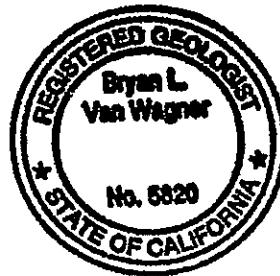
If you have any questions concerning this project, please contact Bryan Van Wagner at 949-292-5080.

Sincerely,

**DELTA ENVIRONMENTAL CONSULTANTS, INC.**



Bryan Van Wagner  
California Registered Geologist No. 5820  
Certified Hydrogeologist No. 0295

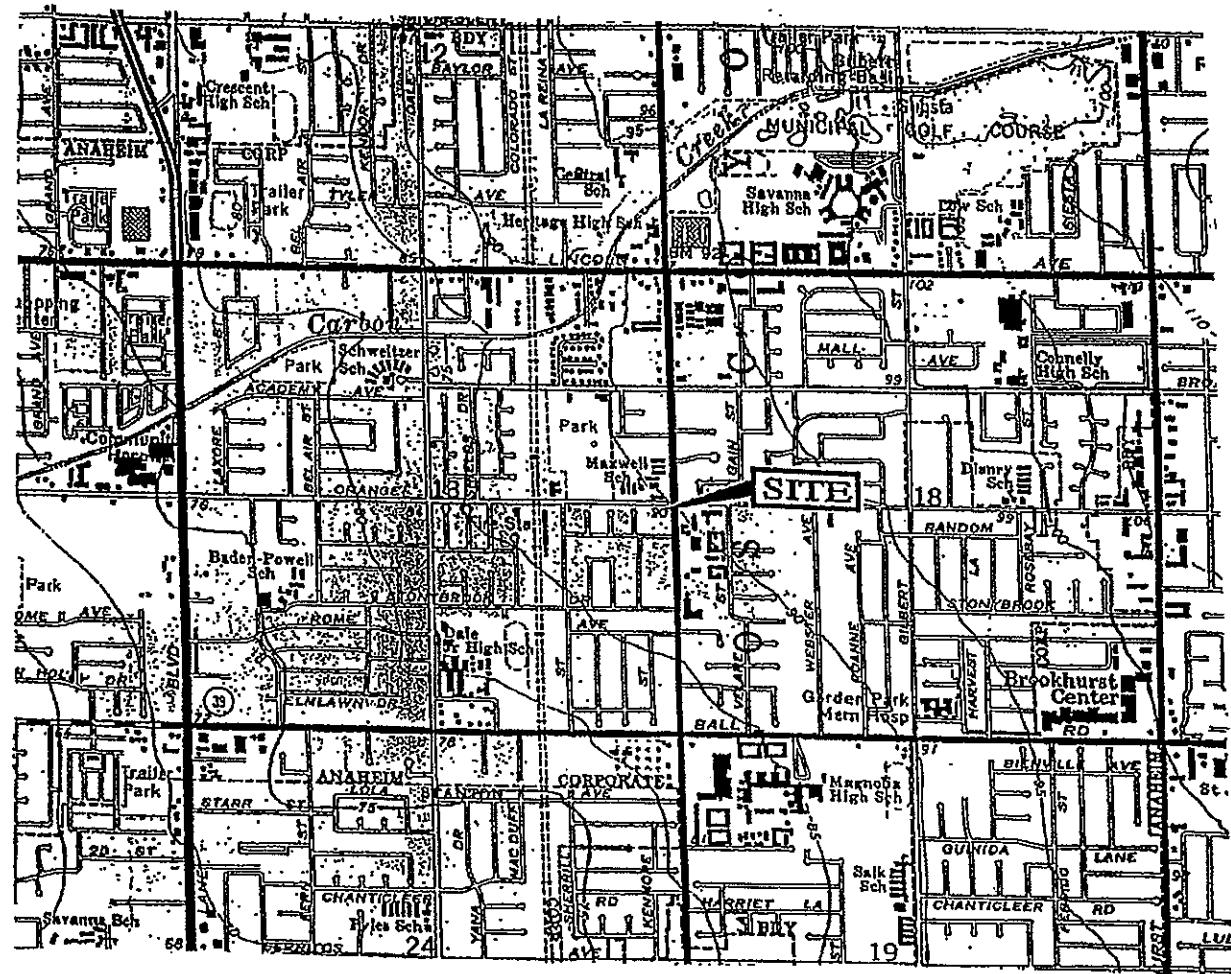


Attachments:    Figure 1         Site Location Map  
                    Figure 2         Site Map  
                    Figure 3         Site Map  
                    Table 1         Historical Soil Analytical Results

cc:       Mr. Darrell Fah, Atlantic Richfield Company, La Palma, California  
             Ms. Valerie Jahn-Bull, RWQCB-SA, Riverside, California

### References

- Brown and Caldwell Consulting Engineers, 1998, Preliminary Site Investigation Report, ARCO Service Station 3023, Anaheim, California: Unpublished report prepared for ARCO Petroleum Product Company, Los Angeles, California, dated August 1988.
- England & Associates, 1998a, Underground Storage Tanks Area Assessment Report, ARCO Station No. 3023, 601 South Magnolia Avenue, Anaheim, California: Unpublished report dated June 7, 1998.
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- England & Associates, 2002, Site Closure Request, ARCO Station No. 3023, 601 South Magnolia Avenue, Anaheim, California: Unpublished report dated May 23, 2002.



**GENERAL NOTES:**

BASE MAP FROM U.S.G.S.

ANAHUAC CALIFORNIA

#### **7.5 MINUTE PROGRAMMING**

7.5 MILE  
AIRCRAFT

1965

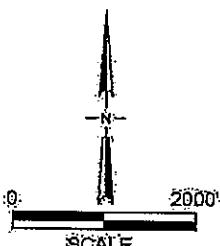
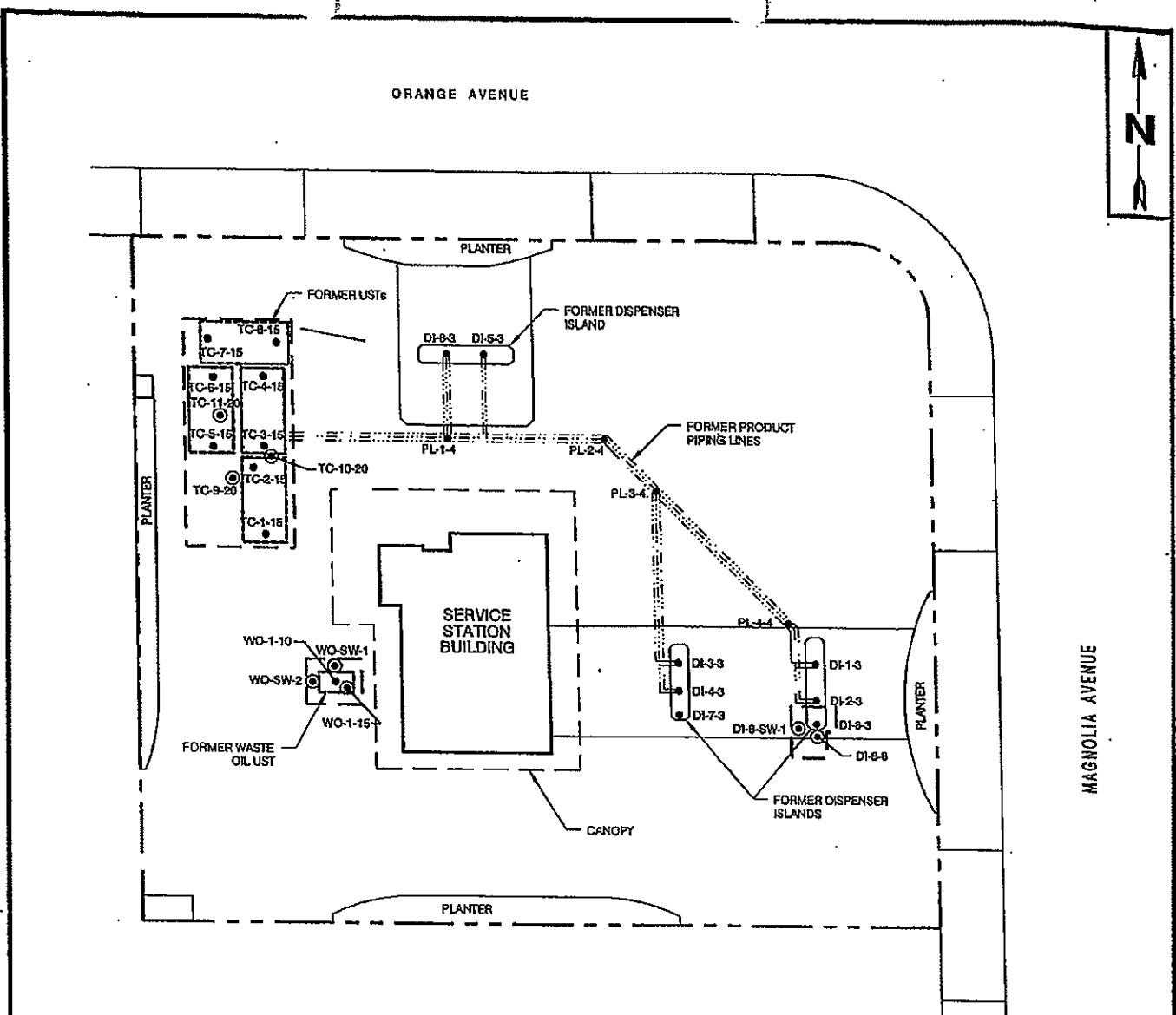


FIGURE 1  
SITE LOCATION MAP  
FORMER ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA STREET  
ANAHEIM, CA

PROJECT NO. AM00-826	DRAWN BY	
FILE NO. SLM 1	PREPARED BY S NIELSEN	
DATE 3/29/04	REV.	REVIEWED BY



### EXPLANATION

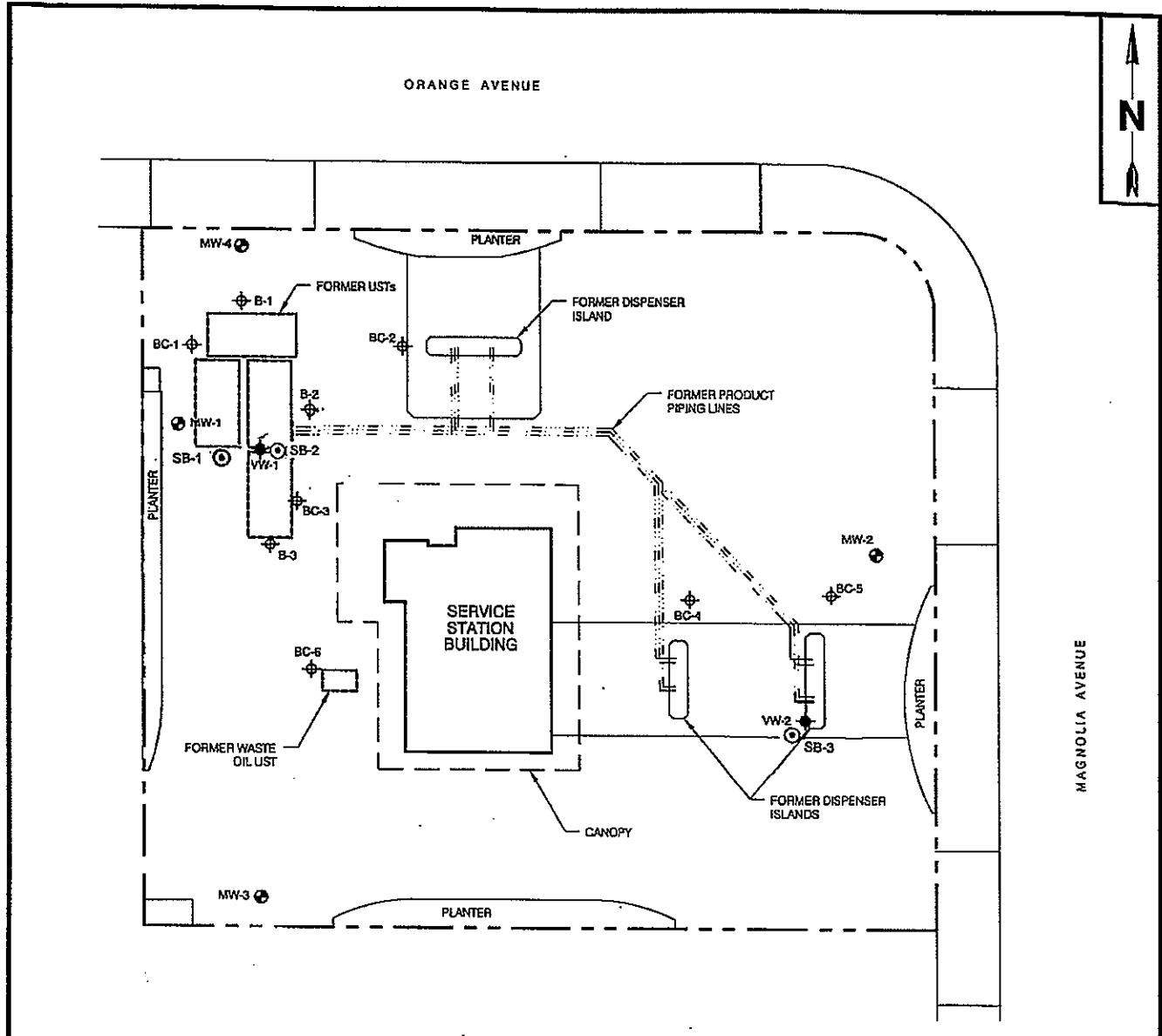
- BC-6      ◆ APPROXIMATE LOCATION OF SOIL BORING LOCATION
- MW-4      ◦ APPROXIMATE LOCATION OF GROUNDWATER MONITORING WELL LOCATION
- DI-8-3      • COMPLIANCE SOIL SAMPLE LOCATION
- WO-SW-1      ◎ CONFIRMATION SOIL SAMPLE LOCATION
- [ ]      LATERAL LIMITS OF EXCAVATION

FIGURE 2  
SITE MAP  
FORMER ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA AVENUE  
ANAHEIM, CA.

"RECREATED FROM DRAWING BY ENGLAND & ASSOCIATES"

PROJECT NO. AM00-826	DRAWN BY K. MARTIN	A	B	C	SS	SM
FILE NO. 3023PDR2	PREPARED BY A. BUGMAN					
DATE 11 APR 03	REV.	REVIEWED BY				





- BC-6 ◊ APPROXIMATE LOCATION OF SOIL BORING LOCATION
- MW-4 ● APPROXIMATE LOCATION OF GROUNDWATER MONITORING WELL LOCATION
- VW-1 ◆ APPROXIMATE LOCATION OF SOIL VAPOR EXTRACTION WELL LOCATION
- SB-1 ○ APPROXIMATE LOCATION OF CONFIRMATION SOIL BORING

FIGURE 3  
SITE MAP  
FORMER ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA AVENUE  
ANAHEIM, CA.

PROJECT NO. AM00-826	DRAWN BY K. MARTIN	A	B	C	D		SM
FILE NO. 3023PDR1	PREPARED BY A. BUGMAN						
DATE 11 APR 03	REV.	REVIEWED BY					

REFERENCE:  
BROWN & CALDWELL, 1988.



**TABLE 1**  
**HISTORICAL SOIL ANALYTICAL RESULTS**  
**FORMER ARCO FACILITY NO. 3023**  
**601 SOUTH MAGNOLIA AVENUE**  
**ANAHEIM, CALIFORNIA**

Sample I.D.	Sample Depth (feet)	Date Sampled	EPA 8015 TPHg (mg/kg)	EPA Method 8020/8021B				EPA Method 8260B			
				Benzene (mg/kg)	Toluene (mg/kg)	Ethybenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	EIBE (mg/kg)
<u>Preliminary Site Investigation</u>											
BC-1	20	08/02/88	0.53	NA	NA	NA	NA	NA	NA	NA	NA
BC-1	30	08/02/88	0.11	NA	NA	NA	NA	NA	NA	NA	NA
BC-2	10	08/02/88	ND<0.10	NA	NA	NA	NA	NA	NA	NA	NA
BC-3	20	08/02/88	0.65	NA	NA	NA	NA	NA	NA	NA	NA
BC-3	30	08/02/88	0.15	NA	NA	NA	NA	NA	NA	NA	NA
BC-4	10	08/02/88	ND<0.10	NA	NA	NA	NA	NA	NA	NA	NA
BC-5	10	08/02/88	0.13	NA	NA	NA	NA	NA	NA	NA	NA
BC-6	5	08/02/88	ND<0.10	NA	NA	NA	NA	NA	NA	NA	NA
BC-6	10	08/02/88	12	NA	NA	NA	NA	NA	NA	NA	NA
<u>Underground Storage Tank Investigation</u>											
B-1	5	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-1	10	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-1	15	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-1	20	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-1	25	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-1	30	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.044	NA	NA
B-1	35	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.1	NA	NA
B-1	40	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	5	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	10	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	15	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	20	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	25	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.044	NA	NA
B-2	30	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.1	NA	NA
B-2	35	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-2	40	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-3	5	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-3	10	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-3	15	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA
B-3	20	04/21/98	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.015	ND<0.035	NA	NA

TABLE 1  
HISTORICAL SOIL ANALYTICAL RESULTS  
FORMER ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA AVENUE  
ANAHEIM, CALIFORNIA

Sample I.D.	Sample Depth (feet)	Date Sampled	EPA 8015		EPA Method 8020/8021B		EPA Method 8260B					
			TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DPE (mg/kg)	EIBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)
B-3	25	04/21/98	ND<1.0	0.017	0.0087	0.047	13	NA	NA	NA	NA	NA
B-3	30	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	0.22	NA	NA	NA	NA	NA
B-3	35	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	18	NA	NA	NA	NA	NA
B-3	40	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	5	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	10	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	15	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	20	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	25	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	30	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	35	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	40	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	45	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-1	50	04/21/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	5	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	10	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	15	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	20	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	25	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	30	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	35	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	40	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	45	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-2	50	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	5	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	10	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	15	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	20	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	25	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	30	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	35	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	0.28	NA	NA	NA	NA
MW-3	40	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
MW-3	45	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	0.19	NA	NA	NA	NA
MW-3	50	07/23/98	ND<1.0	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA

TABLE 1  
HISTORICAL SOIL ANALYTICAL RESULTS  
FORMER ARCO FACILITY NO. 3023  
601 SOUTH MAGNOLIA AVENUE  
ANAHEIM, CALIFORNIA

Sample I.D.	Sample Depth (feet)	Date Sampled	EPA 8015		EPA Method 8030/8021B		EPA Method 8260B				
			TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)
<b>Underground Storage Tank Removal Compliance Samples</b>											
MW-4	5	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	10	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	15	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	20	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	25	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	30	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	35	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	40	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	45	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
MW-4	50	06/30/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
TC-1-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
TC-2-15	15	04/08/99	28000	200	3000	650	3300	2100	2400	NA	NA
TC-3-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	0.10	0.023	NA
TC-4-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	0.092	0.079	NA
TC-5-15	15	04/08/99	3300	ND<10	36	80	590	ND<70	NA	NA	NA
TC-6-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
TC-7-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
TC-8-15	15	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
TC-9-20	20	04/14/99	3.8	0.12	0.93	0.11	0.74	35	45	NA	NA
TC-10-20	20	04/14/99	9100	ND>20	140	64	340	ND<140	NA	NA	NA
TC-11-20	20	04/14/99	1400	ND>2.5	ND>2.5	13	140	ND<18	NA	NA	NA
DI-1-3	3	04/08/99	ND>57	1.8	14	ND<0.29	ND<0.36	10	10	NA	NA
DI-2-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-3-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-4-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-5-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-6-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-7-3	3	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.035	NA	NA	NA
DI-8-3	3	04/08/99	2100	ND>10	97	130	880	ND<70	NA	NA	NA
DI-8-8	8	04/08/99	5600	ND>5.0	33	64	460	ND<35	NA	NA	NA
DI-8-SW-1	5	04/14/99	9000	ND>5.0	12	54	540	ND<35	NA	NA	NA
PL-1-4	4	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA
PL-2-4	4	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA
PL-3-4	4	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA
PL-4-4	4	04/08/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA

**TABLE 1**  
**HISTORICAL SOIL ANALYTICAL RESULTS**  
**FORMER ARCO FACILITY NO. 3023**  
**601 SOUTH MAGNOLIA AVENUE**  
**ANAHEIM, CALIFORNIA**

Sample I.D.	Sample Depth (feet)	Date Sampled	EPA 8015		EPA Method 80/20/80/21B		EPA Method 82/60B						
			TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPPE (mg/kg)	MTBE (mg/kg)	EIBE (mg/kg)	TAME (mg/kg)	TEA (mg/kg)
WO-1-10	10	04/08/99	26*	ND<0.0050	ND>0.0050	ND>0.0050	ND>0.015	ND<0.035	NA	NA	NA	NA	NA
WO-1-15	15	04/14/99	24*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-SW-1	10	04/14/99	22*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
WO-SW-2	10	04/14/99	14*	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
<b>Vapor Extraction Wells</b>													
VW-1	5	12/23/99	ND<1.0	ND>0.0050	ND>0.0050	ND>0.0050	ND>0.015	ND<0.035	NA	NA	NA	NA	NA
VW-1	10	12/23/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	NA	NA	NA	NA	NA
VW-1	15	12/23/99	ND<100	ND<0.50	ND<0.50	3.4	15	2.3	NA	NA	NA	NA	NA
VW-1	20	12/23/99	1.0	0.012	ND>0.0050	0.013	ND>0.015	13	7.9	NA	NA	NA	NA
VW-1	25	12/23/99	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.015	ND<0.035	2.0	NA	NA	NA	NA
VW-1	30	12/23/99	ND<1.0	ND<0.0050	ND<0.0050	0.0076	0.033	0.39	NA	NA	NA	NA	NA
VW-1	35	12/23/99	ND<1.0	ND<0.0050	ND<0.0050	ND>0.0050	0.019	3.6	0.84	NA	NA	NA	NA
VW-2	5	12/23/99	130	ND<0.20	0.84	3.1	21	ND<1.4	NA	NA	NA	NA	NA
VW-2	10	12/23/99	920	ND<4.0	22	22	140	ND<7.0	NA	NA	NA	NA	NA
VW-2	15	12/23/99	21	ND<0.050	1.2	0.64	4.4	0.76	0.84	NA	NA	NA	NA
VW-2	20	12/23/99	2.6	ND<0.0050	0.046	0.057	0.43	0.41	NA	NA	NA	NA	NA
VW-2	25	12/23/99	1.9	ND<0.0050	0.021	0.036	0.25	0.5	0.34	NA	NA	NA	NA
VW-2	30	12/23/99	ND<1.0	ND<0.0050	0.0054	0.0054	0.046	ND<0.035	NA	NA	NA	NA	NA
VW-2	35	12/23/99	ND<1.0	ND<0.0050	0.028	0.026	0.17	ND<0.035	NA	NA	NA	NA	NA
<b>Confirmation Soil Boring Samples</b>													
SB-1-10	10	04/10/03	ND<1.0	ND<0.0010	ND<0.0010	ND<0.0010	ND<0.0020	NA	ND<0.0025	ND<0.0025	ND<0.0025	ND<0.0050	ND<0.15
SB-1-15	15	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-1-20	20	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-1-25	25	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-1-30	30	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-1-35	35	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-1-40	40	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-5	5	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-10	10	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-15	15	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-20	20	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-25	25	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-30	30	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30
SB-2-35	35	04/10/03	ND<1.0	ND<0.0020	ND<0.0020	ND<0.0020	ND<0.0040	NA	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.10	ND<0.30

**TABLE 1**  
**HISTORICAL SOIL ANALYTICAL RESULTS**  
**FORMER ARCO FACILITY NO. 3023**  
**601 SOUTH MAGNOLIA AVENUE**  
**ANAHEIM, CALIFORNIA**

Sample I.D.	Sample Depth (feet)	Date Sampled	EPA Method 8015		EPA Method 8020/8021B		EPA Method 8260B					
			TPHg (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)	MTBE (mg/kg)	DIPE (mg/kg)	ETBE (mg/kg)	TAME (mg/kg)	TBA (mg/kg)
SB-2-40	40	04/10/03	ND<1.0	ND<0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.10	ND<0.30
SB-3-5	5	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.050	ND<0.15
SB-3-10	10	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.10	ND<0.30
SB-3-15	15	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.10	ND<0.30
SB-3-20	20	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.10	ND<0.30
SB-3-25	25	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.050	ND<0.15
SB-3-30	30	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.050	ND<0.15
SB-3-35	35	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.050	ND<0.15
SB-3-40	40	04/10/03	ND<1.0	ND>0.0020	ND>0.0020	ND>0.0020	ND>0.0040	NA	ND<0.0050	ND>0.0050	ND<0.10	ND<0.30

Notes:  
 EPA = Environmental Protection Agency  
 TPHg = Total Petroleum as gasoline  
 mg/kg = Milligrams per kilograms  
 MTBE = Methyl-tert butyl ether  
 DIPE = Di-isopropyl Ether

ETBE = Ethyl-tert butyl ether  
 TAME = tert-Amyl Methyl Ether  
 TBA = tert-Butanol  
 \* = Total Recoverable Petroleum Hydrocarbons (TRPH) concentration by EPA 418.1

**ATTACHMENT B**

**System Data**

## ENGLAND &amp; ASSOCIATES - VAPOR EXTRACTION SYSTEM DATA SHEET - NO.1

Project Name: Anaheim / 601 S. Magnolia A.

Project No. 607-G

Date	No. of Wells Depart	System Status	Time	Infl Vac ("H2O)	System Flow (scfm)	Operating Hours	Well Infl Depart ppm(v)	System Infl Depart ppm(v)	O2 % Conc	Effi Conc ppm(v)	System Comb Temp (F)	Temp Below (F)	Temp Above (F)	Gas Mtr (ft3)	Elec Mtr (Kwhr)
12-13-00	2	online	11:30	8.0	320	0216.77	818.2	794.7	N/D	1458	—	—	Propane	02656	
12-21-00	2	OFF ON	11:30	18	9.6	2446.19	<2000	<2000	N/D	1432	—	—	Propane	03500	
12-21-00	2	OFF/ON	12:14	+											
12-21-00	2	OFF - greater	1000	21	220	2570	<2000	<2000	N/D	1450	—	—	Propane	—	
1-5-1	2	online	0930	20	200	2688	3504.41	356	N/D	1442	—	—	Propane	—	
1-12-1	2	online	0830	20	244	2821	496.47	386	N/D	1440	—	—	Propane	—	
1st	12-6-00	3	online	1030	20"	210	2109	606	No Dr.	—	N/D	1450	—	Propane	—
1-8-1	2	OFFLINE	1000	20"	181	2962.61	672.1	No Dr.	—	N/D	1430	—	—	Propane	15462
1-3-1	2	ONLINE	1430	20"	232	3112.80	552	No Dr.	—	N/D	1420	—	—	Propane	16238
2-8-1	2	ONLINE	1420	20"	183	3302.77	520	No Dr.	—	N/D	1429	—	—	Methane	17178
2-15-1	2	ONLINE	0600	20"	204	3464.13	—	No Dr.	—	N/D	1434	—	—	Propane	—
ESP 2-23-1	2		71200	25"	?	3657.35	—	No Dr.	—		1425	—	—	Propane	19868
ESP 2-27-1	2		71400	25"	?	3754.71	424	No Dr.	—		1432	—	—	Propane	20421
3-7-1	2	ONLINE	1300	20"	168	—	—	No Dr.	—	N/D	1420	—	—	Methane	10587

Field data taken of team today

## ENGLAND & ASSOCIATES - VAPOR EXTRACTION SYSTEM FIB MONITORING SHEET

Akco 3023

Project Name: \_\_\_\_\_

Project No.

607-G:

VAPOR SYSTEM		VW-1			VW-2			VW-3		
Date	Pre-Dilution (ppmv)	Vac (H <sub>2</sub> O")	Flow (scfm)							
12-13	813.10	20	<2000	80	64	1010.2	20	40		
12-29	≤2000	20	220	≤2000	20	66	350	20	154	
1-5-1	356	20	200	547	20	60	298	20	140	
1-12-1	386	20	242	494	20	59	47	20	183	
12-6-1	606	20"	210	≤2,000	20"	442	270	20"	64	
1-18-1	632	20"	181	1395	20"	26	65.8	20"	155	
1-31-1	552	20"	232	610	20"	32	474	20"	200	
1-8-1	520	20"	183	580	20"	40	400	20"	156	
2-13-1	—	20"	—	204	20"	—	476	20"	158	

VW-1						VW-2					
cont	Vac (ppmv)	Flow (scfm)	Vac (H2O")	Flow (ppmv)	Vac (H2O")	cont	Vac (ppmv)	Flow (scfm)	Vac (H2O")	Flow (ppmv)	Vac (H2O")
2-23-1											
2-27-1											
3-7-1	~ 20	~ 168	~ 20"	~ 48	~ 20"	~ 20	~ 10	~ 100	~ 100	~ 100	~ 100

**Table 3. FID/PID Data, ARCO Station No. 3023**

**First Quarter 2001**

Date	Source Influent <sup>1</sup> TPH (ppmV)	Process Influent <sup>1</sup> TPH (ppmV)	TPH Conversion (%)	Effluent TPH <sup>1</sup> (ppmV)	Process Flow (SCFM)	Manifold Vacuum (in H <sub>2</sub> O)	Combustion Temp. (°F)
12/6/00	606	606	100	0	210	20	1450
12/13/00	818	797	100	0	208	20	1458
12/21/00	2,000	2,000	100	0	216	18	1432
12/29/00	2,000	2,000	100	0	220	21	1450
1/5/01	356	356	100	0	200	20	1442
1/12/01	496	386	100	0	244	20	1440
1/18/01	672	672	100	0	181	20	1430
1/31/01	552	552	100	0	232	20	1420
2/8/01	520	520	100	0	183	20	1429
2/15/01	520	520	100	0	204	20	1434
2/23/01	520	520	100	0	211	25	1425
2/27/01	426	426	100	0	211	25	1432
3/7/01	426	426	100	0	168	20	1420

<sup>1</sup>Sampled with an OVM calibrated to manufacturer specifications.

Values provided in *italics* were not recorded, the values provided are estimated or average values.

\* No dilution of source inlet vapor, source and process concentrations are assumed similar  
Source = inlet before dilution

**Table 2. Laboratory Data, ARCO Station No. 3023**

**First Quarter 2001**

Date	Source Influent TPH (ppmV)	Process Influent TPH (ppmV)	Effluent TPH (ppmV)	Source Influent Benzene (ppmV)	Source Influent MTBE (ppmV)	Source Influent CO <sub>2</sub> (%)	Source Influent O <sub>2</sub> (%)	Process Flow (CFM)	Manifold Vacuum (in H <sub>2</sub> O)	Combustion Temp. (°F)	TPH Conversion	Cum. HC Removed <sup>1</sup> (lbs/day)	Cum. HC Removed <sup>1</sup> (lbs)
12/6/00	420	420	NA	<1.6	<1.4	4.8	19	210	20	1450	---	29.1	0
12/13/00	180	180	NA	<1.6	<1.4	NA	NA	208	20	1458	---	12.4	174
12/21/00	330	330	NA	<1.6	<1.4	NA	NA	216	18	1432	---	23.5	330
12/29/00	380	380	NA	<1.6	<1.4	2.6	19	220	21	1450	---	27.6	439
1/5/01	100	100	NA	<1.6	<1.4	2.2	21	200	20	1442	---	6.6	496
1/12/01	99	99	NA	<1.6	<1.4	2.3	21	244	20	1440	---	8.0	550
1/18/01	110	110	NA	<1.6	<1.4	2.3	22	181	20	1430	---	6.6	596
1/31/01	77	77	NA	<1.6	<1.4	2	20	232	20	1420	---	5.9	649
2/8/01	62	62	NA	<1.6	<1.4	2.1	21	183	20	1429	---	3.7	689
2/15/01	18	18	NA	<1.6	<1.4	1.6	21	204	20	1434	---	1.2	711
2/23/01	49	49	NA	<1.6	<1.4	NA	NA	211	25	1425	---	3.4	734
2/27/01	31	31	NA	<1.6	<1.4	NA	NA	211	25	1432	---	2.2	748
3/7/01	13	13	NA	<1.6	<1.4	1.2	21	168	20	1420	---	0.7	759

Values provided in *italics* were not recorded, the values provided are estimated or average values.

<sup>1</sup>Cumulative hydrocarbons removed based upon analytical data

Samples analyzed for TPH, benzene and MTBE by EPA Method 8015B/8021B

No dilution of source inlet vapor; source and process concentrations are assumed similar

NA - not analyzed

--- not applicable

Source = inlet before dilution

Process = inlet after dilution

Oxygen readings are based on laboratory analysis.

TRANSMISSION VERIFICATION REPORT

TIME : 04/23/2001 09:50  
NAME : ENGLAND GEOSYSTEM  
FAX : 949-453-0733  
TEL : 949-453-8085

DATE, TIME	04/23 09:48
FAX NO./NAME	15629979485
DURATION	00:01:49
PAGE(S)	05
RESULT	OK
MODE	STANDARD ECM



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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 27131-00

Sampled: 02/23/01  
Received: 02/23/01  
Reported: 02/27/01

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A handwritten signature in black ink, appearing to read "P. Abe".

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 27131-00  
 Report Number: IKB0857

Sampled: 02/23/01  
 Received: 02/23/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample Result	Dilution	Date Extracted	Date Analyzed	Data Qualifiers
			Limit		Factor			
			mg/m <sup>3</sup>	mg/m <sup>3</sup>				
<b>Sample ID: IKB0857-01 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2341	10	26	1	2/23/01	2/23/01		QG
Benzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Toluene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Ethylbenzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Total Xylenes	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
<b>Sample ID: IKB0857-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2341	10	230	1	2/23/01	2/23/01		QG
Benzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Toluene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Ethylbenzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Total Xylenes	EPA 8015B/8021 I1B2341	5.0	18	1	2/23/01	2/23/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
<b>Sample ID: IKB0857-03 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2341	10	200	1	2/23/01	2/23/01		QG
Benzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Toluene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Ethylbenzene	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		
Total Xylenes	EPA 8015B/8021 I1B2341	5.0	15	1	2/23/01	2/23/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2341	5.0	ND	1	2/23/01	2/23/01		

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 Project Manager

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0857

Sampled: 02/23/01  
Received: 02/23/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ppmv	ppmv				
<b>Sample ID: IKB0857-01 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2341		2.4	6.4	1	2/23/01	2/23/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2341		1.6	ND	1	2/23/01	2/23/01	
Toluene ppmv	EPA 8015B/8021 I1B2341		1.3	ND	1	2/23/01	2/23/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2341		1.2	ND	1	2/23/01	2/23/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2341		1.2	ND	1	2/23/01	2/23/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2341		1.4	ND	1	2/23/01	2/23/01	
<b>Sample ID: IKB0857-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2341		2.4	56	1	2/23/01	2/23/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2341		1.6	ND	1	2/23/01	2/23/01	
Toluene ppmv	EPA 8015B/8021 I1B2341		1.3	ND	1	2/23/01	2/23/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2341		1.2	ND	1	2/23/01	2/23/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2341		1.2	4.2	1	2/23/01	2/23/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2341		1.4	ND	1	2/23/01	2/23/01	
<b>Sample ID: IKB0857-03 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2341		2.4	49	1	2/23/01	2/23/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2341		1.6	ND	1	2/23/01	2/23/01	
Toluene ppmv	EPA 8015B/8021 I1B2341		1.3	ND	1	2/23/01	2/23/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2341		1.2	ND	1	2/23/01	2/23/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2341		1.2	3.4	1	2/23/01	2/23/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2341		1.4	ND	1	2/23/01	2/23/01	

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Pat Abe  
Project Manager

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0857

Sampled: 02/23/01  
Received: 02/23/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-----------	-----------------

Batch: I1B2341 Extracted: 02/23/01

**Blank Analyzed: 02/23/01 (I1B2341-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 02/23/01 (I1B2341-BS1)**

Benzene	54.8	5.0	mg/m <sup>3</sup>	52.8		104	70-130			
Toluene	55.7	5.0	mg/m <sup>3</sup>	52.8		105	70-130			
Ethylbenzene	55.4	5.0	mg/m <sup>3</sup>	52.8		105	70-130			
Total Xylenes	172	5.0	mg/m <sup>3</sup>	158		109	70-130			
Methyl-tert-butyl Ether (MTBE)	50.9	5.0	mg/m <sup>3</sup>	53.9		94.4	70-130			

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0857

Sampled: 02/23/01  
Received: 02/23/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1B2341 Extracted: 02/23/01</u>										
<b>Blank Analyzed: 02/23/01 (I1B2341-BLK1)</b>										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0857

Sampled: 02/23/01  
Received: 02/23/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
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Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 27131-00

Sampled: 02/27/01  
Received: 02/27/01  
Reported: 03/01/01

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A handwritten signature in black ink, appearing to read "Pat Abe".

Del Mar Analytical, Irvine  
Pat Abe  
Project Manager

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 27131-00  
 Report Number: IKB0971

Sampled: 02/27/01  
 Received: 02/27/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m <sup>3</sup>	mg/m <sup>3</sup>				
<b>Sample ID: IKB0971-01 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2737	10	27	1	2/27/01	2/27/01	QG	
Benzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Toluene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Ethylbenzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Total Xylenes	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
<b>Sample ID: IKB0971-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2737	10	130	1	2/27/01	2/27/01	QG	
Benzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Toluene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Ethylbenzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Total Xylenes	EPA 8015B/8021 I1B2737	5.0	12	1	2/27/01	2/27/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
<b>Sample ID: IKB0971-03 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B2737	10	130	1	2/27/01	2/27/01	QG	
Benzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Toluene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Ethylbenzene	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		
Total Xylenes	EPA 8015B/8021 I1B2737	5.0	10	1	2/27/01	2/27/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B2737	5.0	ND	1	2/27/01	2/27/01		

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 Pat Abe  
 Project Manager

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0971

Sampled: 02/27/01  
Received: 02/27/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IKB0971-01 (VW-H - Air)</b>								ppmv
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2737		2.4	6.7	1	2/27/01	2/27/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2737		1.6	ND	1	2/27/01	2/27/01	
Toluene ppmv	EPA 8015B/8021 I1B2737		1.3	ND	1	2/27/01	2/27/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2737		1.2	ND	1	2/27/01	2/27/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2737		1.2	ND	1	2/27/01	2/27/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2737		1.4	ND	1	2/27/01	2/27/01	
<b>Sample ID: IKB0971-02 (VW-2 - Air)</b>								ppmv
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2737		2.4	32	1	2/27/01	2/27/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2737		1.6	ND	1	2/27/01	2/27/01	
Toluene ppmv	EPA 8015B/8021 I1B2737		1.3	ND	1	2/27/01	2/27/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2737		1.2	ND	1	2/27/01	2/27/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2737		1.2	2.7	1	2/27/01	2/27/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2737		1.4	ND	1	2/27/01	2/27/01	
<b>Sample ID: IKB0971-03 (Totalization - Air)</b>								ppmv
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B2737		2.4	31	1	2/27/01	2/27/01	QV
Benzene ppmv	EPA 8015B/8021 I1B2737		1.6	ND	1	2/27/01	2/27/01	
Toluene ppmv	EPA 8015B/8021 I1B2737		1.3	ND	1	2/27/01	2/27/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B2737		1.2	ND	1	2/27/01	2/27/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B2737		1.2	2.3	1	2/27/01	2/27/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B2737		1.4	ND	1	2/27/01	2/27/01	

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England Geosystem Inc.  
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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0971

Sampled: 02/27/01  
Received: 02/27/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1B2737 Extracted: 02/27/01

**Blank Analyzed: 02/27/01 (I1B2737-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QC
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 02/27/01 (I1B2737-BS1)**

Benzene	53.6	5.0	mg/m <sup>3</sup>	52.8		102	70-130			
Toluene	52.4	5.0	mg/m <sup>3</sup>	52.8		99.2	70-130			
Ethylbenzene	51.0	5.0	mg/m <sup>3</sup>	52.8		96.6	70-130			
Total Xylenes	160	5.0	mg/m <sup>3</sup>	158		101	70-130			
Methyl-tert-butyl Ether (MTBE)	50.5	5.0	mg/m <sup>3</sup>	53.9		93.7	70-130			

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 27131-00  
Report Number: IKB0971

Sampled: 02/27/01  
Received: 02/27/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1B2737 Extracted: 02/27/01</u>										
Blank Analyzed: 02/27/01 (I1B2737-BLK1)										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Attention: Fabio Minervini

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Work Auth. # 27131-00  
Report Number: IKB0971

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Sampled: 02/27/01  
Received: 02/27/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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**ARCO Products Company**

Division of Atlantic Richfield Company

**Task Order No.** 27131-00 Ref. 01

 ARCO Facility no. 3023 City (Facility) Artesia  
 ARCO engineer

Consultant name England Gas System

Preservation

Sample I.D.

Container no.

Lab no.

Matrix

Soil

Water

Other

Ice

Acid

Sampling date

Sampling time

Project manager

(Consultant)

Telephone no.

(ARCO)

Telephone no.

(Consultant)

Fax no.

(949) 453-8085

(Consultant)

(949) 453-0733

Comments

Remarks

**Chain of Custody**

Laboratory name	Del Mar Analytical									
Contract number	07073									
Method of shipment	Hand Delivery									
Special detection limit/reporting										
Special QA/QC										
Lab number	TKB0971									
Turnaround time										
Priority Rush	<input type="checkbox"/> 1 Business Day									
Rush	<input type="checkbox"/> 2 Business Days									
Expedited	<input type="checkbox"/> 5 Business Days									
Standard	<input checked="" type="checkbox"/> 10 Business Days									
Temperature received:	72° C									
Condition of sample:	Intact									
Relinquished by sampler	Jean C. Tolley		Date	2-27-01		Time	1308		Received by	
Relinquished by			Date			Time			Received by	
Relinquished by			Date			Time			Received by laboratory	
Relinquished by			Date			Time			Date	
Relinquished by			Date			Time			Time	



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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 12/21/00  
Received: 12/21/00  
Reported: 12/27/00

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Del Mar Analytical, Irvine  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0835

Sampled: 12/21/00  
Received: 12/21/00

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
								mg/m <sup>3</sup>
Sample ID: IJL0835-01 (VW-H - Air)				mg/m <sup>3</sup>				
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2230		10	300	1	12/22/00	12/22/00	QG
Benzene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Toluene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Ethylbenzene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Total Xylenes	EPA 8015B/8021 IOL2230		5.0	31	1	12/22/00	12/22/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
								mg/m <sup>3</sup>
Sample ID: IJL0835-02 (VW-2 - Air)				mg/m <sup>3</sup>				
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2230		10	1700	1	12/22/00	12/22/00	QG
Benzene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Toluene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Ethylbenzene	EPA 8015B/8021 IOL2230		5.0	18	1	12/22/00	12/22/00	
Total Xylenes	EPA 8015B/8021 IOL2230		5.0	130	1	12/22/00	12/22/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
								mg/m <sup>3</sup>
Sample ID: IJL0835-03 (Totalization - Air)				mg/m <sup>3</sup>				
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2230		10	1300	1	12/22/00	12/22/00	QG
Benzene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Toluene	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	
Ethylbenzene	EPA 8015B/8021 IOL2230		5.0	13	1	12/22/00	12/22/00	
Total Xylenes	EPA 8015B/8021 IOL2230		5.0	93	1	12/22/00	12/22/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2230		5.0	ND	1	12/22/00	12/22/00	

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0835

Sampled: 12/21/00  
Received: 12/21/00

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IJL0835-01 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2230	2.4	74	1	12/22/00	12/22/00		QV
Benzene ppmv	EPA 8015B/8021 IOL2230	1.6	ND	1	12/22/00	12/22/00		
Toluene ppmv	EPA 8015B/8021 IOL2230	1.3	ND	1	12/22/00	12/22/00		
Ethylbenzene ppmv	EPA 8015B/8021 IOL2230	1.2	ND	1	12/22/00	12/22/00		
Xylenes, Total ppmv	EPA 8015B/8021 IOL2230	1.2	7.2	1	12/22/00	12/22/00		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2230	1.4	ND	1	12/22/00	12/22/00		
<b>Sample ID: IJL0835-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2230	2.4	420	1	12/22/00	12/22/00		QV
Benzene ppmv	EPA 8015B/8021 IOL2230	1.6	ND	1	12/22/00	12/22/00		
Toluene ppmv	EPA 8015B/8021 IOL2230	1.3	ND	1	12/22/00	12/22/00		
Ethylbenzene ppmv	EPA 8015B/8021 IOL2230	1.2	4.1	1	12/22/00	12/22/00		
Xylenes, Total ppmv	EPA 8015B/8021 IOL2230	1.2	30	1	12/22/00	12/22/00		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2230	1.4	ND	1	12/22/00	12/22/00		
<b>Sample ID: IJL0835-03 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2230	2.4	330	1	12/22/00	12/22/00		QV
Benzene ppmv	EPA 8015B/8021 IOL2230	1.6	ND	1	12/22/00	12/22/00		
Toluene ppmv	EPA 8015B/8021 IOL2230	1.3	ND	1	12/22/00	12/22/00		
Ethylbenzene ppmv	EPA 8015B/8021 IOL2230	1.2	3.1	1	12/22/00	12/22/00		
Xylenes, Total ppmv	EPA 8015B/8021 IOL2230	1.2	21	1	12/22/00	12/22/00		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2230	1.4	ND	1	12/22/00	12/22/00		

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0835

Sampled: 12/21/00  
Received: 12/21/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-----------	-----------------

Batch: IOL2230 Extracted: 12/22/00

**Blank Analyzed: 12/22/00 (IOL2230-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 12/22/00 (IOL2230-BS1)**

Benzene	46.9	5.0	mg/m <sup>3</sup>	52.8		88.8	70-130			
Toluene	45.3	5.0	mg/m <sup>3</sup>	52.8		85.8	70-130			
Ethylbenzene	45.9	5.0	mg/m <sup>3</sup>	52.8		86.9	70-130			
Total Xylenes	142	5.0	mg/m <sup>3</sup>	158		89.9	70-130			
Methyl-tert-butyl Ether (MTBE)	48.7	5.0	mg/m <sup>3</sup>	53.9		90.4	70-130			

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0835

Sampled: 12/21/00  
Received: 12/21/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Data Limit	Qualifiers
<u>Batch: IJL2230 Extracted: 12/22/00</u>										
Blank Analyzed: 12/22/00 (IJL2230-BLK1)										QV
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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England Geosystem Inc.  
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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0835

Sampled: 12/21/00  
Received: 12/21/00

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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# ARCO Products Company

Division of Atlantic Richfield Company

Task Order No. 25610-01 R<sup>10</sup>

ARCO Facility no. 3023 City Anaheim

(Facility)

Telephone no. (714) 453-3085

(Consultant)

Fax no.

(Consultant)

ARCO engineer

Consultant name England Geo System

Address (Consultant)

Barrett Hwy. Irvine

Sampling date (Consultant)

15375

Preservation

Sample ID.

Container no.

VW-H

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:00

Sampling date

12-21-00

Container no.

VW-2

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:10

Sampling date

12-21-00

Container no.

Tell/1241

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:20

Sampling date

12-21-00

Container no.

VW-3

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:30

Sampling date

12-21-00

Container no.

VW-4

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:40

Sampling date

12-21-00

Container no.

VW-5

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 13:50

Sampling date

12-21-00

Container no.

VW-6

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:00

Sampling date

12-21-00

Container no.

VW-7

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:10

Sampling date

12-21-00

Container no.

VW-8

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:20

Sampling date

12-21-00

Container no.

VW-9

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:30

Sampling date

12-21-00

Container no.

VW-10

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:40

Sampling date

12-21-00

Container no.

VW-11

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 14:50

Sampling date

12-21-00

Container no.

VW-12

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:00

Sampling date

12-21-00

Container no.

VW-13

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:10

Sampling date

12-21-00

Container no.

VW-14

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:20

Sampling date

12-21-00

Container no.

VW-15

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:30

Sampling date

12-21-00

Container no.

VW-16

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:40

Sampling date

12-21-00

Container no.

VW-17

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 15:50

Sampling date

12-21-00

Container no.

VW-18

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 16:00

Sampling date

12-21-00

Container no.

VW-19

Soil

1

Water

Vapors

Ice

Vapors

Acid

Vapors

Sampling time

12-21-00 16:10

Sampling date



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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 12/29/00  
Received: 12/29/00  
Reported: 01/07/01

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AZ DHS License #AZ0428

A handwritten signature in black ink, appearing to read "P. Abe".

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			Limit			mg/m³	mg/m³	
<b>Sample ID: IJL0991-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2924	10	1800	1	1	12/29/00	12/29/00	QG
Benzene	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	
Toluene	EPA 8015B/8021 IOL2924	5.0	5.0	1	1	12/29/00	12/29/00	
Ethylbenzene	EPA 8015B/8021 IOL2924	5.0	20	1	1	12/29/00	12/29/00	
Total Xylenes	EPA 8015B/8021 IOL2924	5.0	190	1	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	
<b>Sample ID: IJL0991-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2924	10	950	1	1	12/29/00	12/29/00	QG
Benzene	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	
Toluene	EPA 8015B/8021 IOL2924	5.0	5.1	1	1	12/29/00	12/29/00	
Ethylbenzene	EPA 8015B/8021 IOL2924	5.0	9.9	1	1	12/29/00	12/29/00	
Total Xylenes	EPA 8015B/8021 IOL2924	5.0	100	1	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	
<b>Sample ID: IJL0991-03 (Comb Inf. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL2924	10	1600	1	1	12/29/00	12/29/00	QG
Benzene	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	
Toluene	EPA 8015B/8021 IOL2924	5.0	5.0	1	1	12/29/00	12/29/00	
Ethylbenzene	EPA 8015B/8021 IOL2924	5.0	16	1	1	12/29/00	12/29/00	
Total Xylenes	EPA 8015B/8021 IOL2924	5.0	160	1	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL2924	5.0	ND	1	1	12/29/00	12/29/00	

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ppmv	ppmv				
<b>Sample ID: IJL0991-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2924		2.4	430	1	12/29/00	12/29/00	QV
Benzene ppmv	EPA 8015B/8021 IOL2924		1.6	ND	1	12/29/00	12/29/00	
Toluene ppmv	EPA 8015B/8021 IOL2924		1.3	1.3	1	12/29/00	12/29/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL2924		1.2	4.6	1	12/29/00	12/29/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL2924		1.2	43	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2924		1.4	ND	1	12/29/00	12/29/00	
<b>Sample ID: IJL0991-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2924		2.4	230	1	12/29/00	12/29/00	QV
Benzene ppmv	EPA 8015B/8021 IOL2924		1.6	ND	1	12/29/00	12/29/00	
Toluene ppmv	EPA 8015B/8021 IOL2924		1.3	1.4	1	12/29/00	12/29/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL2924		1.2	2.3	1	12/29/00	12/29/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL2924		1.2	24	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2924		1.4	ND	1	12/29/00	12/29/00	
<b>Sample ID: IJL0991-03 (Comb Inf. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL2924		2.4	380	1	12/29/00	12/29/00	QV
Benzene ppmv	EPA 8015B/8021 IOL2924		1.6	ND	1	12/29/00	12/29/00	
Toluene ppmv	EPA 8015B/8021 IOL2924		1.3	1.3	1	12/29/00	12/29/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL2924		1.2	3.6	1	12/29/00	12/29/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL2924		1.2	37	1	12/29/00	12/29/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL2924		1.4	ND	1	12/29/00	12/29/00	

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IJL0991-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL2927	0.10	3.6	1	12/29/00	12/29/00		
Carbon Monoxide	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Methane	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Nitrogen	ASTM D1946-90IOL2927	1.0	78	1	12/29/00	12/29/00		
Oxygen	ASTM D1946-90IOL2927	0.50	18	1	12/29/00	12/29/00		
<b>Sample ID: IJL0991-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL2927	0.10	2.4	1	12/29/00	12/29/00		
Carbon Monoxide	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Methane	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Nitrogen	ASTM D1946-90IOL2927	1.0	76	1	12/29/00	12/29/00		
Oxygen	ASTM D1946-90IOL2927	0.50	21	1	12/29/00	12/29/00		
<b>Sample ID: IJL0991-03 (Comb Inf. - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL2927	0.10	2.6	1	12/29/00	12/29/00		
Carbon Monoxide	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Methane	ASTM D1946-90IOL2927	0.10	ND	1	12/29/00	12/29/00		
Nitrogen	ASTM D1946-90IOL2927	1.0	78	1	12/29/00	12/29/00		
Oxygen	ASTM D1946-90IOL2927	0.50	19	1	12/29/00	12/29/00		

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	-----------	-----------------

Batch: I0L2924 Extracted: 12/29/00

**Blank Analyzed: 12/29/00 (I0L2924-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QC
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 12/29/00 (I0L2924-BS1)**

Benzene	42.3	5.0	mg/m <sup>3</sup>	52.8		80.1	70-130			
Toluene	41.9	5.0	mg/m <sup>3</sup>	52.8		79.4	70-130			
Ethylbenzene	42.8	5.0	mg/m <sup>3</sup>	52.8		81.1	70-130			
Total Xylenes	136	5.0	mg/m <sup>3</sup>	158		86.1	70-130			
Methyl-tert-butyl Ether (MTBE)	42.6	5.0	mg/m <sup>3</sup>	53.9		79.0	70-130			

**LCS Analyzed: 12/29/00 (I0L2924-BS2)**

Volatile Fuel Hydrocarbons	246	10	mg/m <sup>3</sup>	286		86.0	70-130			QC
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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD	Data Limit Qualifiers
<u>Batch: IOL2924 Extracted: 12/29/00</u>									
Blank Analyzed: 12/29/00 (IOL2924-BLK1)									
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv						QV
Benzene ppmv	ND	1.6	ppmv						
Toluene ppmv	ND	1.3	ppmv						
Ethylbenzene ppmv	ND	1.2	ppmv						
Xylenes, Total ppmv	ND	1.2	ppmv						
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						

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England Geosystem Inc.  
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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

## METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b><u>Batch: IOL2927 Extracted: 12/29/00</u></b>										
<b>Blank Analyzed: 12/29/00 (IOL2927-BLK1)</b>										
Carbon Dioxide										
Carbon Monoxide	ND	0.10	%							
Methane	ND	0.10	%							
Nitrogen	77.3	1.0	%							
Oxygen	22.6	0.50	%							

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0991

Sampled: 12/29/00  
Received: 12/29/00

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 01/05/01  
Received: 01/05/01  
Reported: 01/11/01

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKA0101

Sampled: 01/05/01  
 Received: 01/05/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IKA0101-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA0521	10	1500	1	1/5/01	1/5/01		QG
Benzene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Toluene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Ethylbenzene	EPA 8015B/8021 IIA0521	5.0	18	1	1/5/01	1/5/01		
Total Xylenes	EPA 8015B/8021 IIA0521	5.0	150	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA0521	10	420	1	1/5/01	1/5/01		QG
Benzene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Toluene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Ethylbenzene	EPA 8015B/8021 IIA0521	5.0	6.2	1	1/5/01	1/5/01		
Total Xylenes	EPA 8015B/8021 IIA0521	5.0	48	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-03 (COMB. IN - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA0521	10	410	1	1/5/01	1/5/01		QG
Benzene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Toluene	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		
Ethylbenzene	EPA 8015B/8021 IIA0521	5.0	6.7	1	1/5/01	1/5/01		
Total Xylenes	EPA 8015B/8021 IIA0521	5.0	48	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA0521	5.0	ND	1	1/5/01	1/5/01		

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England Geosystem Inc.  
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 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKA0101

Sampled: 01/05/01  
 Received: 01/05/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IKA0101-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A0521	2.4	360	1	1/5/01	1/5/01		QV
Benzene ppmv	EPA 8015B/8021 I1A0521	1.6	ND	1	1/5/01	1/5/01		
Toluene ppmv	EPA 8015B/8021 I1A0521	1.3	ND	1	1/5/01	1/5/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A0521	1.2	4.0	1	1/5/01	1/5/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A0521	1.2	35	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A0521	1.4	ND	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A0521	2.4	100	1	1/5/01	1/5/01		QV
Benzene ppmv	EPA 8015B/8021 I1A0521	1.6	ND	1	1/5/01	1/5/01		
Toluene ppmv	EPA 8015B/8021 I1A0521	1.3	ND	1	1/5/01	1/5/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A0521	1.2	1.4	1	1/5/01	1/5/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A0521	1.2	11	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A0521	1.4	ND	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-03 (COMB. IN - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A0521	2.4	100	1	1/5/01	1/5/01		QV
Benzene ppmv	EPA 8015B/8021 I1A0521	1.6	ND	1	1/5/01	1/5/01		
Toluene ppmv	EPA 8015B/8021 I1A0521	1.3	ND	1	1/5/01	1/5/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A0521	1.2	1.5	1	1/5/01	1/5/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A0521	1.2	11	1	1/5/01	1/5/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A0521	1.4	ND	1	1/5/01	1/5/01		

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England Geosystem Inc.  
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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0101

Sampled: 01/05/01  
Received: 01/05/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKA0101-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A0529	0.10	3.5	1	1/5/01	1/5/01		
Carbon Monoxide	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Methane	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Nitrogen	ASTM D1946-90I1A0529	1.0	78	1	1/5/01	1/5/01		
Oxygen	ASTM D1946-90I1A0529	0.50	19	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A0529	0.10	2.2	1	1/5/01	1/5/01		
Carbon Monoxide	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Methane	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Nitrogen	ASTM D1946-90I1A0529	1.0	77	1	1/5/01	1/5/01		
Oxygen	ASTM D1946-90I1A0529	0.50	21	1	1/5/01	1/5/01		
<b>Sample ID: IKA0101-03 (COMB. IN - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A0529	0.10	2.2	1	1/5/01	1/5/01		
Carbon Monoxide	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Methane	ASTM D1946-90I1A0529	0.10	ND	1	1/5/01	1/5/01		
Nitrogen	ASTM D1946-90I1A0529	1.0	77	1	1/5/01	1/5/01		
Oxygen	ASTM D1946-90I1A0529	0.50	21	1	1/5/01	1/5/01		

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0101

Sampled: 01/05/01  
Received: 01/05/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: J1A0521 Extracted: 01/05/01

**Blank Analyzed: 01/05/01 (J1A0521-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m³							QC
Benzene	ND	5.0	mg/m³							
Toluene	ND	5.0	mg/m³							
Ethylbenzene	ND	5.0	mg/m³							
Total Xylenes	ND	5.0	mg/m³							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m³							

**LCS Analyzed: 01/05/01 (J1A0521-BS1)**

Benzene	52.2	5.0	mg/m³	52.8		98.9	70-130			
Toluene	52.3	5.0	mg/m³	52.8		99.1	70-130			
Ethylbenzene	53.9	5.0	mg/m³	52.8		102	70-130			
Total Xylenes	166	5.0	mg/m³	158		105	70-130			
Methyl-tert-butyl Ether (MTBE)	52.2	5.0	mg/m³	53.9		96.8	70-130			

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Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKA0101

Sampled: 01/05/01  
 Received: 01/05/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	-----	-----------	-----------------

Batch: I1A0521 Extracted: 01/05/01

**Blank Analyzed: 01/05/01 (I1A0521-BLK1)**

Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0101

Sampled: 01/05/01  
Received: 01/05/01

## METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1A0529 Extracted: 01/05/01</u>										
Blank Analyzed: 01/05/01 (I1A0529-BLK1)										
Carbon Dioxide	ND	0.10	%							
Carbon Monoxide	ND	0.10	%							
Methane	ND	0.10	%							
Nitrogen	77.8	1.0	%							
Oxygen	22.1	0.50	%							

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0101

Sampled: 01/05/01  
Received: 01/05/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 01/12/01  
Received: 01/12/01  
Reported: 01/18/01

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**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IKA0500-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A1230	10	1300	1	1/12/01	1/12/01		QG
Benzene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Toluene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Ethylbenzene	EPA 8015B/8021 I1A1230	5.0	12	1	1/12/01	1/12/01		
Total Xylenes	EPA 8015B/8021 I1A1230	5.0	110	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A1230	10	320	1	1/12/01	1/12/01		QG
Benzene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Toluene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Ethylbenzene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Total Xylenes	EPA 8015B/8021 I1A1230	5.0	29	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-03 (COMB IN - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A1230	10	410	1	1/12/01	1/12/01		QG
Benzene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Toluene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Ethylbenzene	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		
Total Xylenes	EPA 8015B/8021 I1A1230	5.0	41	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A1230	5.0	ND	1	1/12/01	1/12/01		

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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IKA0500-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1230	2.4	320	1	1/12/01	1/12/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1230	1.6	ND	1	1/12/01	1/12/01		
Toluene ppmv	EPA 8015B/8021 I1A1230	1.3	ND	1	1/12/01	1/12/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1230	1.2	2.8	1	1/12/01	1/12/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1230	1.2	26	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1230	1.4	ND	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1230	2.4	77	1	1/12/01	1/12/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1230	1.6	ND	1	1/12/01	1/12/01		
Toluene ppmv	EPA 8015B/8021 I1A1230	1.3	ND	1	1/12/01	1/12/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1230	1.2	ND	1	1/12/01	1/12/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1230	1.2	6.7	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1230	1.4	ND	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-03 (COMB IN - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1230	2.4	99	1	1/12/01	1/12/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1230	1.6	ND	1	1/12/01	1/12/01		
Toluene ppmv	EPA 8015B/8021 I1A1230	1.3	ND	1	1/12/01	1/12/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1230	1.2	ND	1	1/12/01	1/12/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1230	1.2	9.4	1	1/12/01	1/12/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1230	1.4	ND	1	1/12/01	1/12/01		

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKA0500-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1237	0.10	3.5	1	1/12/01	1/12/01		
Carbon Monoxide	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Methane	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Nitrogen	ASTM D1946-90I1A1237	1.0	78	1	1/12/01	1/12/01		
Oxygen	ASTM D1946-90I1A1237	0.50	19	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1237	0.10	2.6	1	1/12/01	1/12/01		
Carbon Monoxide	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Methane	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Nitrogen	ASTM D1946-90I1A1237	1.0	77	1	1/12/01	1/12/01		
Oxygen	ASTM D1946-90I1A1237	0.50	20	1	1/12/01	1/12/01		
<b>Sample ID: IKA0500-03 (COMB IN - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1237	0.10	2.3	1	1/12/01	1/12/01		
Carbon Monoxide	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Methane	ASTM D1946-90I1A1237	0.10	ND	1	1/12/01	1/12/01		
Nitrogen	ASTM D1946-90I1A1237	1.0	77	1	1/12/01	1/12/01		
Oxygen	ASTM D1946-90I1A1237	0.50	21	1	1/12/01	1/12/01		

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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

### METHOD BLANK/QC DATA

#### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Limit	Data Qualifiers
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Batch: I1A1230 Extracted: 01/12/01

**Blank Analyzed: 01/12/01 (I1A1230-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>						QG
Benzene	ND	5.0	mg/m <sup>3</sup>						
Toluene	ND	5.0	mg/m <sup>3</sup>						
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>						
Total Xylenes	ND	5.0	mg/m <sup>3</sup>						
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>						

**LCS Analyzed: 01/12/01 (I1A1230-BS1)**

Benzene	50.5	5.0	mg/m <sup>3</sup>	52.8		95.6	70-130		
Toluene	50.5	5.0	mg/m <sup>3</sup>	52.8		95.6	70-130		
Ethylbenzene	51.9	5.0	mg/m <sup>3</sup>	52.8		98.3	70-130		
Total Xylenes	162	5.0	mg/m <sup>3</sup>	158		103	70-130		
Methyl-tert-butyl Ether (MTBE)	51.1	5.0	mg/m <sup>3</sup>	53.9		94.8	70-130		

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Data Limit Qualifiers
<u>Batch: I1A1230 Extracted: 01/12/01</u>									
Blank Analyzed: 01/12/01 (I1A1230-BLK1)									
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv						QV
Benzene ppmv	ND	1.6	ppmv						
Toluene ppmv	ND	1.3	ppmv						
Ethylbenzene ppmv	ND	1.2	ppmv						
Xylenes, Total ppmv	ND	1.2	ppmv						
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						

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Project Manager

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

### METHOD BLANK/QC DATA

#### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Data Limit Qualifiers
<u>Batch: I1A1237 Extracted: 01/12/01</u>									
Blank Analyzed: 01/12/01 (I1A1237-BLK1)									
Carbon Dioxide	ND	0.10	%						
Carbon Monoxide	ND	0.10	%						
Methane	ND	0.10	%						
Nitrogen	78.0	1.0	%						
Oxygen	22.0	0.50	%						

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0500

Sampled: 01/12/01  
Received: 01/12/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 01/18/01  
Received: 01/19/01  
Reported: 01/22/01

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Pat Abe  
Project Manager

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England Geosystem Inc.  
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 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKA0825

Sampled: 01/18/01  
 Received: 01/19/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IKA0825-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA1940	10	350	1	1/19/01	1/19/01		QG
Benzene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Toluene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Ethylbenzene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
<b>Total Xylenes</b>	EPA 8015B/8021 IIA1940	5.0	30	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA1940	10	150	1	1/19/01	1/19/01		QG
Benzene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Toluene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Ethylbenzene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
<b>Total Xylenes</b>	EPA 8015B/8021 IIA1940	5.0	15	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-03 (COMB. INFL. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IIA1940	10	460	1	1/19/01	1/19/01		QG
Benzene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Toluene	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		
Ethylbenzene	EPA 8015B/8021 IIA1940	5.0	5.5	1	1/19/01	1/19/01		
<b>Total Xylenes</b>	EPA 8015B/8021 IIA1940	5.0	40	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IIA1940	5.0	ND	1	1/19/01	1/19/01		

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 Pat Abe  
 Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IKA0825-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1940	2.4	<b>86</b>	1	1/19/01	1/19/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1940	1.6	ND	1	1/19/01	1/19/01		
Toluene ppmv	EPA 8015B/8021 I1A1940	1.3	ND	1	1/19/01	1/19/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1940	1.2	ND	1	1/19/01	1/19/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1940	1.2	<b>7.0</b>	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1940	1.4	ND	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1940	2.4	<b>36</b>	1	1/19/01	1/19/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1940	1.6	ND	1	1/19/01	1/19/01		
Toluene ppmv	EPA 8015B/8021 I1A1940	1.3	ND	1	1/19/01	1/19/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1940	1.2	ND	1	1/19/01	1/19/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1940	1.2	<b>3.5</b>	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1940	1.4	ND	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-03 (COMB. INFL. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A1940	2.4	<b>110</b>	1	1/19/01	1/19/01		QV
Benzene ppmv	EPA 8015B/8021 I1A1940	1.6	ND	1	1/19/01	1/19/01		
Toluene ppmv	EPA 8015B/8021 I1A1940	1.3	ND	1	1/19/01	1/19/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1A1940	1.2	<b>1.3</b>	1	1/19/01	1/19/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1A1940	1.2	<b>9.2</b>	1	1/19/01	1/19/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A1940	1.4	ND	1	1/19/01	1/19/01		

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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKA0825-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1943	0.10	3.0	1	1/19/01	1/19/01		
Carbon Monoxide	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Methane	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Nitrogen	ASTM D1946-90I1A1943	1.0	78	1	1/19/01	1/19/01		
Oxygen	ASTM D1946-90I1A1943	0.50	19	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1943	0.10	1.5	1	1/19/01	1/19/01		
Carbon Monoxide	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Methane	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Nitrogen	ASTM D1946-90I1A1943	1.0	77	1	1/19/01	1/19/01		
Oxygen	ASTM D1946-90I1A1943	0.50	22	1	1/19/01	1/19/01		
<b>Sample ID: IKA0825-03 (COMB. INFL. - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1A1943	0.10	2.3	1	1/19/01	1/19/01		
Carbon Monoxide	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Methane	ASTM D1946-90I1A1943	0.10	ND	1	1/19/01	1/19/01		
Nitrogen	ASTM D1946-90I1A1943	1.0	76	1	1/19/01	1/19/01		
Oxygen	ASTM D1946-90I1A1943	0.50	22	1	1/19/01	1/19/01		

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Project Manager

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England Geosystem Inc.  
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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1A1940 Extracted: 01/19/01

**Blank Analyzed: 01/19/01 (I1A1940-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>						QC
Benzene	ND	5.0	mg/m <sup>3</sup>						
Toluene	ND	5.0	mg/m <sup>3</sup>						
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>						
Total Xylenes	ND	5.0	mg/m <sup>3</sup>						
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>						

**LCS Analyzed: 01/19/01 (I1A1940-BS1)**

Benzene	49.8	5.0	mg/m <sup>3</sup>	52.8		94.3	70-130		
Toluene	49.6	5.0	mg/m <sup>3</sup>	52.8		93.9	70-130		
Ethylbenzene	50.7	5.0	mg/m <sup>3</sup>	52.8		96.0	70-130		
Total Xylenes	157	5.0	mg/m <sup>3</sup>	158		99.4	70-130		
Methyl-tert-butyl Ether (MTBE)	50.0	5.0	mg/m <sup>3</sup>	53.9		92.8	70-130		

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	Data Limit Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------------------	---------	-----------------------

Batch: I1A1940 Extracted: 01/19/01

**Blank Analyzed: 01/19/01 (I1A1940-BLK1)**

Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv					QV
Benzene ppmv	ND	1.6	ppmv					
Toluene ppmv	ND	1.3	ppmv					
Ethylbenzene ppmv	ND	1.2	ppmv					
Xylenes, Total ppmv	ND	1.2	ppmv					
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv					

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

### METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1A1943 Extracted: 01/19/01</u>										
Blank Analyzed: 01/19/01 (I1A1943-BLK1)										
Carbon Dioxide	ND	0.10	%							
Carbon Monoxide	ND	0.10	%							
Methane	ND	0.10	%							
Nitrogen	77.6	1.0	%							
Oxygen	22.3	0.50	%							

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA0825

Sampled: 01/18/01  
Received: 01/19/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
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Project Manager

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 01/31/01  
Received: 01/31/01  
Reported: 02/02/01

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A handwritten signature in black ink, appearing to read "Pat Abe".

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKA1317

Sampled: 01/31/01  
 Received: 01/31/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IKA1317-01 (VW - 2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A3153	10	730	1	1/31/01	1/31/01	1/31/01	QG
Benzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Toluene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Ethylbenzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
<b>Total Xylenes</b>	EPA 8015B/8021 I1A3153	5.0	<b>57</b>	1	1/31/01	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
<b>Sample ID: IKA1317-02 (VW - H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A3153	10	180	1	1/31/01	1/31/01	1/31/01	QG
Benzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Toluene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Ethylbenzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
<b>Total Xylenes</b>	EPA 8015B/8021 I1A3153	5.0	<b>15</b>	1	1/31/01	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
<b>Sample ID: IKA1317-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1A3153	10	320	1	1/31/01	1/31/01	1/31/01	QG
Benzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Toluene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
Ethylbenzene	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	
<b>Total Xylenes</b>	EPA 8015B/8021 I1A3153	5.0	<b>23</b>	1	1/31/01	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1A3153	5.0	ND	1	1/31/01	1/31/01	1/31/01	

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ppmv	ppmv				
<b>Sample ID: IKA1317-01 (VW - 2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A3153		2.4	180	1	1/31/01	1/31/01	QV
Benzene ppmv	EPA 8015B/8021 I1A3153		1.6	ND	1	1/31/01	1/31/01	
Toluene ppmv	EPA 8015B/8021 I1A3153		1.3	ND	1	1/31/01	1/31/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1A3153		1.2	ND	1	1/31/01	1/31/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1A3153		1.2	13	1	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A3153		1.4	ND	1	1/31/01	1/31/01	
<b>Sample ID: IKA1317-02 (VW - H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A3153		2.4	43	1	1/31/01	1/31/01	QV
Benzene ppmv	EPA 8015B/8021 I1A3153		1.6	ND	1	1/31/01	1/31/01	
Toluene ppmv	EPA 8015B/8021 I1A3153		1.3	ND	1	1/31/01	1/31/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1A3153		1.2	ND	1	1/31/01	1/31/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1A3153		1.2	3.5	1	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A3153		1.4	ND	1	1/31/01	1/31/01	
<b>Sample ID: IKA1317-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1A3153		2.4	77	1	1/31/01	1/31/01	QV
Benzene ppmv	EPA 8015B/8021 I1A3153		1.6	ND	1	1/31/01	1/31/01	
Toluene ppmv	EPA 8015B/8021 I1A3153		1.3	ND	1	1/31/01	1/31/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1A3153		1.2	ND	1	1/31/01	1/31/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1A3153		1.2	5.4	1	1/31/01	1/31/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1A3153		1.4	ND	1	1/31/01	1/31/01	

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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKA1317-01 (VW - 2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0138	0.10	3.2	1	2/1/01	2/1/01		
Carbon Monoxide	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Methane	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Nitrogen	ASTM D1946-90I1B0138	1.0	78	1	2/1/01	2/1/01		
Oxygen	ASTM D1946-90I1B0138	0.50	19	1	2/1/01	2/1/01		
<b>Sample ID: IKA1317-02 (VW - H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0138	0.10	1.8	1	2/1/01	2/1/01		
Carbon Monoxide	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Methane	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Nitrogen	ASTM D1946-90I1B0138	1.0	77	1	2/1/01	2/1/01		
Oxygen	ASTM D1946-90I1B0138	0.50	21	1	2/1/01	2/1/01		
<b>Sample ID: IKA1317-03 (COMB. INF. - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0138	0.10	2.0	1	2/1/01	2/1/01		
Carbon Monoxide	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Methane	ASTM D1946-90I1B0138	0.10	ND	1	2/1/01	2/1/01		
Nitrogen	ASTM D1946-90I1B0138	1.0	78	1	2/1/01	2/1/01		
Oxygen	ASTM D1946-90I1B0138	0.50	20	1	2/1/01	2/1/01		

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1A3153 Extracted: 01/31/01

**Blank Analyzed: 01/31/01 (I1A3153-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 01/31/01 (I1A3153-BS1)**

Benzene	48.6	5.0	mg/m <sup>3</sup>	52.8		92.0	70-130			
Toluene	48.0	5.0	mg/m <sup>3</sup>	52.8		90.9	70-130			
Ethylbenzene	47.8	5.0	mg/m <sup>3</sup>	52.8		90.5	70-130			
Total Xylenes	150	5.0	mg/m <sup>3</sup>	158		94.9	70-130			
Methyl-tert-butyl Ether (MTBE)	49.0	5.0	mg/m <sup>3</sup>	53.9		90.9	70-130			

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: J1A3153 Extracted: 01/31/01</u>										
Blank Analyzed: 01/31/01 (J1A3153-BLK1)										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

## METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1B0138 Extracted: 02/01/01</u>										
<b>Blank Analyzed: 02/01/01 (I1B0138-BLK1)</b>										
Carbon Dioxide	ND	0.10	%							
Carbon Monoxide	ND	0.10	%							
Methane	ND	0.10	%							
Nitrogen	78.4	1.0	%							
Oxygen	21.5	0.50	%							

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKA1317

Sampled: 01/31/01  
Received: 01/31/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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## LABORATORY REPORT

Prepared For: England and Associates  
Fabio Minervini  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Project: ARCO 3023, Anaheim  
Work Auth. # 25003-01

Sampled: 02/02/00-02/03/00  
Received 02/03/00  
Reported: 02/10/00

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Project Manager

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 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>mg/m<sup>3</sup></b>								
<b>Sample ID: IJB0116-01 (VW-2AT2 - Air)</b>				<b>mg/m<sup>3</sup></b>				
Volatile Fuel Hydrocarbons	EPA 8015B/8021B I0B0431	20	7500	2	2/4/00	2/4/00		
Benzene	EPA 8015B/8021B I0B0431	10	ND	2	2/4/00	2/4/00		
Toluene	EPA 8015B/8021B I0B0431	10	100	2	2/4/00	2/4/00		
Ethylbenzene	EPA 8015B/8021B I0B0431	10	220	2	2/4/00	2/4/00		
Total Xylenes	EPA 8015B/8021B I0B0431	10	1300	2	2/4/00	2/4/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021B I0B0431	10	ND	2	2/4/00	2/4/00		
<b>Sampled: 02/02/00</b>								
<b>Sample ID: IJB0116-02 (VW-1AT2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021B I0B0431	20	380	2	2/4/00	2/4/00		
Benzene	EPA 8015B/8021B I0B0431	10	ND	2	2/4/00	2/4/00		
Toluene	EPA 8015B/8021B I0B0431	10	11	2	2/4/00	2/4/00		
Ethylbenzene	EPA 8015B/8021B I0B0431	10	ND	2	2/4/00	2/4/00		
Total Xylenes	EPA 8015B/8021B I0B0431	10	48	2	2/4/00	2/4/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021B I0B0431	10	190	2	2/4/00	2/4/00		
<b>Sampled: 02/03/00</b>								
<b>Sample ID: IJB0116-03 (VW-HAT2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021B I0B0431	20	2200	2	2/4/00	2/4/00		
Benzene	EPA 8015B/8021B I0B0431	10	18	2	2/4/00	2/4/00		
Toluene	EPA 8015B/8021B I0B0431	10	120	2	2/4/00	2/4/00		
Ethylbenzene	EPA 8015B/8021B I0B0431	10	27	2	2/4/00	2/4/00		
Total Xylenes	EPA 8015B/8021B I0B0431	10	180	2	2/4/00	2/4/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021B I0B0431	10	390	2	2/4/00	2/4/00		

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

**VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)**

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IJB0116-01 (VW-2AT2 - Air)</b>				ppmv	ppmv			
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021B I0B0431		4.8	1800	2	2/4/00	2/4/00	-1.1v <sup>2</sup>
Benzene ppmv	EPA 8015B/8021B I0B0431		3.2	ND	2	2/4/00	2/4/00	
Toluene ppmv	EPA 8015B/8021B I0B0431		2.6	28	2	2/4/00	2/4/00	
Ethylbenzene ppmv	EPA 8015B/8021B I0B0431		2.4	51	2	2/4/00	2/4/00	
Total Xylenes ppmv	EPA 8015B/8021B I0B0431		2.4	300	2	2/4/00	2/4/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021B I0B0431		2.8	ND	2	2/4/00	2/4/00	
<b>Sample ID: IJB0116-02 (VW-1AT2 - Air)</b>				Sampled:	02/02/00			
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021B I0B0431		4.8	92	2	2/4/00	2/4/00	
Benzene ppmv	EPA 8015B/8021B I0B0431		3.2	ND	2	2/4/00	2/4/00	
Toluene ppmv	EPA 8015B/8021B I0B0431		2.6	2.8	2	2/4/00	2/4/00	
Ethylbenzene ppmv	EPA 8015B/8021B I0B0431		2.4	ND	2	2/4/00	2/4/00	
Total Xylenes ppmv	EPA 8015B/8021B I0B0431		2.4	11	2	2/4/00	2/4/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021B I0B0431		2.8	53	2	2/4/00	2/4/00	
<b>Sample ID: IJB0116-03 (VW-HAT2 - Air)</b>				Sampled:	02/03/00			
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021B I0B0431		4.8	540	2	2/4/00	2/4/00	
Benzene ppmv	EPA 8015B/8021B I0B0431		3.2	5.6	2	2/4/00	2/4/00	
Toluene ppmv	EPA 8015B/8021B I0B0431		2.6	33	2	2/4/00	2/4/00	
Ethylbenzene ppmv	EPA 8015B/8021B I0B0431		2.4	6.2	2	2/4/00	2/4/00	
Total Xylenes ppmv	EPA 8015B/8021B I0B0431		2.4	42	2	2/4/00	2/4/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021B I0B0431		2.8	110	2	2/4/00	2/4/00	

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### MTBE (EPA 8260 MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m <sup>3</sup>	mg/m <sup>3</sup>				
<b>Sample ID: IJB0116-01 (VW-2AT2 - Air)</b>				<b>Sampled: 02/02/00</b>				
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD. I0B0505	5.0	12	1	109 %	2/5/00	2/5/00	
<i>Surrogate: Dibromoformmethane (86-118%)</i>								
<b>Sample ID: IJB0116-02 (VW-1AT2 - Air)</b>				<b>Sampled: 02/03/00</b>				
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD. I0B0511	5.0	250	1	92.6 %	2/5/00	2/5/00	
<i>Surrogate: Dibromoformmethane (86-118%)</i>								
<b>Sample ID: IJB0116-03 (VW-HAT2 - Air)</b>				<b>Sampled: 02/03/00</b>				
Methyl-tert-butyl Ether (MTBE)	EPA 8260B MOD. I0B0511	10	480	2	92.2 %	2/5/00	2/5/00	
<i>Surrogate: Dibromoformmethane (86-118%)</i>								

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England and Associates  
 15375 Barnanca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### MTBE (EPA 8260 MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IJB0116-01 (VW-2AT2 - Air)</b>			ppmv	ppmv				
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8260B MOD. I0B0505		1.4	3.2	1	2/5/00	2/5/00	
<i>Surrogate: Dibromofluoromethane ppmv (86-118%)</i>				109 %				
<b>Sample ID: IJB0116-02 (VW-1AT2 - Air)</b>				Sampled: 02/03/00				
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8260B MOD. I0B0511		1.4	71	1	2/5/00	2/5/00	
<i>Surrogate: Dibromofluoromethane ppmv (86-118%)</i>				92.7 %				
<b>Sample ID: IJB0116-03 (VW-HAT2 - Air)</b>				Sampled: 02/03/00				
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8260B MOD. I0B0511		2.8	130	2	2/5/00	2/5/00	
<i>Surrogate: Dibromofluoromethane ppmv (86-118%)</i>				92.4 %				

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 Pat Abe  
 Project Manager

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### METHOD: BLANK/OC DATA

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: I0B0431 Extracted: 02/04/00</b>										
<b>Blank Analyzed: 02/04/00 (I0B0431-BLK1)</b>										
Volatile Fuel Hydrocarbons	ND	10	mg/m³							
Benzene	ND	5.0	mg/m³							
Toluene	ND	5.0	mg/m³							
Ethylbenzene	ND	5.0	mg/m³							
Total Xylenes	ND	5.0	mg/m³							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m³							
<b>LCS Analyzed: 02/04/00 (I0B0431-BS1)</b>										
Benzene	54.9	5.0	mg/m³	52.8		104	70-130			
Toluene	57.5	5.0	mg/m³	52.8		109	70-130			
Ethylbenzene	56.2	5.0	mg/m³	52.8		106	70-130			
Total Xylenes	168	5.0	mg/m³	158		106	70-130			
Methyl-tert-butyl Ether (MTBE)	53.6	5.0	mg/m³	53.9		99.4	70-130			

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Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

**METHOD BLANK/QC DATA**

**VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)**

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b><u>Batch: I0B0431 Extracted: 02/04/00</u></b>										
<b>Blank Analyzed: 02/04/00 (I0B0431-BLK1)</b>										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Total Xylenes ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### METHOD/BLANK/QC DATA

#### MTBE (EPA 8260 MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
<b>Batch: I0B0505 Extracted: 02/05/00</b>										
<b>Blank Analyzed: 02/05/00 (I0B0505-BLK1)</b>										
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							
Surrogate: Dibromoformmethane	55.3		mg/m <sup>3</sup>	50.0		111	86-118			
<b>LCS Analyzed: 02/05/00 (I0B0505-BS1)</b>										
Methyl-tert-butyl Ether (MTBE)	50.3	5.0	mg/m <sup>3</sup>	50.0		101	60-140			
Surrogate: Dibromoformmethane	57.4		mg/m <sup>3</sup>	50.0		115	86-118			
<b>Batch: I0B0511 Extracted: 02/05/00</b>										
<b>Blank Analyzed: 02/05/00 (I0B0511-BLK1)</b>										
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							
Surrogate: Dibromoformmethane	49.1		mg/m <sup>3</sup>	50.0		98.2	86-118			
<b>LCS Analyzed: 02/05/00 (I0B0511-BS1)</b>										
Methyl-tert-butyl Ether (MTBE)	40.1	5.0	mg/m <sup>3</sup>	50.0		80.2	60-140			
Surrogate: Dibromoformmethane	48.5		mg/m <sup>3</sup>	50.0		97.0	86-118			

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25003-01  
 Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
 Received: 02/03/00

### METHOD BLANK/QC DATA

#### MTBE (EPA 8260 MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
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**Batch: I0B0505 Extracted: 02/05/00**

**Blank Analyzed: 02/05/00 (I0B0505-BLK1)**

Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						
<i>Surrogate: Dibromofluoromethane ppmv</i>	<i>7.11</i>		<i>ppmv</i>	<i>6.43</i>		<i>111</i>	<i>86-118</i>		

**Batch: I0B0511 Extracted: 02/05/00**

**Blank Analyzed: 02/05/00 (I0B0511-BLK1)**

Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						
<i>Surrogate: Dibromofluoromethane ppmv</i>	<i>6.32</i>		<i>ppmv</i>	<i>6.43</i>		<i>98.3</i>	<i>86-118</i>		

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25003-01  
Report Number: IJB0116

Sampled: 02/02/00-02/03/00  
Received: 02/03/00

## DATA QUALIFIERS AND DEFINITIONS

- ND** Analyte NOT DETECTED at or above the reporting limit  
**NR** Not reported.  
**RPD** Relative Percent Difference

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**ARCO Products Company**

Division of Atlantic Richfield Company

**Task Order No.** 25003-01 *10:00 AM*
**Chain of Custody.**

ARCO Facility no.	3023	City (Facility)	Franklin	Project manager	<i>Laura</i>	Laboratory name		
ARCO engineer	<i>Dawn L. Lab</i>	Telephone no.		(Consultant)		Fax no.		
Consultant name	<i>Environmental Associates</i>	Address	(Consultant) 153 75th Avenue, Bay St. Louis, MS	Telephone no.	949-638005	(Consultant)	949-638005	
Sample I.D.		Preservation		Sampling date		Remarks		
Lab no.	<i>AR-2ATZ</i>	Soil	Water	Other	<i>11/24</i>	Lab number		
Container no.	<i>1</i>	Ice		Acid		Turnaround time		
Matrix						Priority Rush	<input type="checkbox"/>	
						Rush	<input type="checkbox"/>	
						2 Business Days	<input type="checkbox"/>	
						Expedited	<input type="checkbox"/>	
						5 Business Days	<input type="checkbox"/>	
						Standard	<input type="checkbox"/>	
						10 Business Days	<input checked="" type="checkbox"/>	
Condition of sample:	<i>in tact</i>						Temperature received:	<i>10:00 AM</i>
Reinquished by sampler	Date	Time	Received by	Date	Time	Received by	Date	
<i>Sc</i>	<i>2/3/00</i>	<i>10:40</i>	<i>Laura</i>	<i>2/3/00</i>	<i>10:40</i>	<i>Laura</i>	<i>2/3/00</i>	
Reinquished by	Date	Time	Received by laboratory	Date	Time	Received by consultant	Date	
<i>Sc</i>	<i>2/3/00</i>	<i>11:20</i>	<i>Laura</i>	<i>2/3/00</i>	<i>11:20</i>	<i>Laura</i>	<i>2/3/00</i>	
Reinquished by	Date	Time	Received by	Date	Time	Received by	Date	
<i>Sc</i>	<i>2/3/00</i>	<i>11:20</i>	<i>Laura</i>	<i>2/3/00</i>	<i>11:20</i>	<i>Laura</i>	<i>2/3/00</i>	



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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 02/08/01  
Received: 02/09/01  
Reported: 02/14/01

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Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

CA ELAP Certificate #1197  
AZ DHS License #AZ0428

A handwritten signature in black ink, appearing to read "P. Abe".

Del Mar Analytical, Irvine  
Pat Abe  
Project Manager

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England Geosystem Inc. 15375 Barranca Pkwy., Suite F-106 Irvine, CA 92618 Attention: Fabio Minervini	Client Project ID: ARCO 3023, Anaheim Work Auth. # 25610-01 Report Number: IKB0321	Sampled: 02/08/01 Received: 02/09/01
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### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			Limit		mg/m³	mg/m³		
<b>Sample ID: IKB0321-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B0932	10	360	1	2/9/01	2/9/01		QG
Benzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Toluene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Ethylbenzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Total Xylenes	EPA 8015B/8021 I1B0932	5.0	28	1	2/9/01	2/9/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
<b>Sample ID: IKB0321-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B0932	10	140	1	2/9/01	2/9/01		QG
Benzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Toluene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Ethylbenzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Total Xylenes	EPA 8015B/8021 I1B0932	5.0	9.8	1	2/9/01	2/9/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
<b>Sample ID: IKB0321-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B0932	10	250	1	2/9/01	2/9/01		QG
Benzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Toluene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Ethylbenzene	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		
Total Xylenes	EPA 8015B/8021 I1B0932	5.0	20	1	2/9/01	2/9/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B0932	5.0	ND	1	2/9/01	2/9/01		

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0321

Sampled: 02/08/01  
Received: 02/09/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>ppmv</b>							<b>ppmv</b>	
<b>Sample ID: IKB0321-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B0932		2.4	89	1	2/9/01	2/9/01	QV
Benzene ppmv	EPA 8015B/8021 I1B0932		1.6	ND	1	2/9/01	2/9/01	
Toluene ppmv	EPA 8015B/8021 I1B0932		1.3	ND	1	2/9/01	2/9/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B0932		1.2	ND	1	2/9/01	2/9/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B0932		1.2	6.5	1	2/9/01	2/9/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B0932		1.4	ND	1	2/9/01	2/9/01	
<b>Sample ID: IKB0321-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B0932		2.4	34	1	2/9/01	2/9/01	QV
Benzene ppmv	EPA 8015B/8021 I1B0932		1.6	ND	1	2/9/01	2/9/01	
Toluene ppmv	EPA 8015B/8021 I1B0932		1.3	ND	1	2/9/01	2/9/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B0932		1.2	ND	1	2/9/01	2/9/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B0932		1.2	2.3	1	2/9/01	2/9/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B0932		1.4	ND	1	2/9/01	2/9/01	
<b>Sample ID: IKB0321-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B0932		2.4	62	1	2/9/01	2/9/01	QV
Benzene ppmv	EPA 8015B/8021 I1B0932		1.6	ND	1	2/9/01	2/9/01	
Toluene ppmv	EPA 8015B/8021 I1B0932		1.3	ND	1	2/9/01	2/9/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1B0932		1.2	ND	1	2/9/01	2/9/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1B0932		1.2	4.6	1	2/9/01	2/9/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B0932		1.4	ND	1	2/9/01	2/9/01	

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0321

Sampled: 02/08/01  
Received: 02/09/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKB0321-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0933	0.10	2.0	1	2/9/01	2/9/01		
Carbon Monoxide	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Methane	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Nitrogen	ASTM D1946-90I1B0933	1.0	75	1	2/9/01	2/9/01		
Oxygen	ASTM D1946-90I1B0933	0.50	23	1	2/9/01	2/9/01		
<b>Sample ID: IKB0321-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0933	0.10	1.8	1	2/9/01	2/9/01		
Carbon Monoxide	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Methane	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Nitrogen	ASTM D1946-90I1B0933	1.0	76	1	2/9/01	2/9/01		
Oxygen	ASTM D1946-90I1B0933	0.50	23	1	2/9/01	2/9/01		
<b>Sample ID: IKB0321-03 (COMB. INF. - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B0933	0.10	2.1	1	2/9/01	2/9/01		
Carbon Monoxide	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Methane	ASTM D1946-90I1B0933	0.10	ND	1	2/9/01	2/9/01		
Nitrogen	ASTM D1946-90I1B0933	1.0	77	1	2/9/01	2/9/01		
Oxygen	ASTM D1946-90I1B0933	0.50	21	1	2/9/01	2/9/01		

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Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0321

Sampled: 02/08/01  
Received: 02/09/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1B0932 Extracted: 02/09/01

**Blank Analyzed: 02/09/01 (I1B0932-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 02/09/01 (I1B0932-BS1)**

Benzene	45.8	5.0	mg/m <sup>3</sup>	52.8		86.7	70-130			
Toluene	46.0	5.0	mg/m <sup>3</sup>	52.8		87.1	70-130			
Ethylbenzene	46.6	5.0	mg/m <sup>3</sup>	52.8		88.3	70-130			
Total Xylenes	143	5.0	mg/m <sup>3</sup>	158		90.5	70-130			
Methyl-tert-butyl Ether (MTBE)	42.8	5.0	mg/m <sup>3</sup>	53.9		79.4	70-130			

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKB0321

Sampled: 02/08/01  
 Received: 02/09/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1B0932 Extracted: 02/09/01</u>										
Blank Analyzed: 02/09/01 (I1B0932-BLK1)										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0321

Sampled: 02/08/01  
Received: 02/09/01

### METHOD BLANK/QC DATA

#### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Data Limit Qualifiers
<u>Batch: I1B0933 Extracted: 02/09/01</u>									
Blank Analyzed: 02/09/01 (I1B0933-BLK1)									
Carbon Dioxide	ND	0.10	%						
Carbon Monoxide	ND	0.10	%						
Methane	ND	0.10	%						
Nitrogen	78.5	1.0	%						
Oxygen	21.4	0.50	%						

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0321

Sampled: 02/08/01  
Received: 02/09/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
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Project Manager

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 02/15/01  
Received: 02/16/01  
Reported: 02/20/01

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Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

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A handwritten signature in black ink, appearing to read "P-A" or "Pat Abe".

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IKB0599-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B1624	10	160	1	2/16/01	2/16/01		QG
Benzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Toluene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Ethylbenzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
<b>Total Xylenes</b>	EPA 8015B/8021 I1B1624	5.0	14	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B1624	10	70	1	2/16/01	2/16/01		QG
Benzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Toluene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Ethylbenzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
<b>Total Xylenes</b>	EPA 8015B/8021 I1B1624	5.0	6.6	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1B1624	10	75	1	2/16/01	2/16/01		QG
Benzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Toluene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
Ethylbenzene	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		
<b>Total Xylenes</b>	EPA 8015B/8021 I1B1624	5.0	7.1	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1B1624	5.0	ND	1	2/16/01	2/16/01		

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
<b>Sample ID: IKB0599-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B1624	2.4	<b>38</b>	1	2/16/01	2/16/01		QV
Benzene ppmv	EPA 8015B/8021 I1B1624	1.6	ND	1	2/16/01	2/16/01		
Toluene ppmv	EPA 8015B/8021 I1B1624	1.3	ND	1	2/16/01	2/16/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1B1624	1.2	ND	1	2/16/01	2/16/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1B1624	1.2	<b>3.2</b>	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B1624	1.4	ND	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B1624	2.4	<b>17</b>	1	2/16/01	2/16/01		QV
Benzene ppmv	EPA 8015B/8021 I1B1624	1.6	ND	1	2/16/01	2/16/01		
Toluene ppmv	EPA 8015B/8021 I1B1624	1.3	ND	1	2/16/01	2/16/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1B1624	1.2	ND	1	2/16/01	2/16/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1B1624	1.2	<b>1.5</b>	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B1624	1.4	ND	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1B1624	2.4	<b>18</b>	1	2/16/01	2/16/01		QV
Benzene ppmv	EPA 8015B/8021 I1B1624	1.6	ND	1	2/16/01	2/16/01		
Toluene ppmv	EPA 8015B/8021 I1B1624	1.3	ND	1	2/16/01	2/16/01		
Ethylbenzene ppmv	EPA 8015B/8021 I1B1624	1.2	ND	1	2/16/01	2/16/01		
Xylenes, Total ppmv	EPA 8015B/8021 I1B1624	1.2	<b>1.6</b>	1	2/16/01	2/16/01		
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1B1624	1.4	ND	1	2/16/01	2/16/01		

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Project Manager

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IKB0599

Sampled: 02/15/01  
 Received: 02/16/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IKB0599-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B1634	0.10	1.5	1	2/16/01	2/16/01		
Carbon Monoxide	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Methane	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Nitrogen	ASTM D1946-90I1B1634	1.0	78	1	2/16/01	2/16/01		
Oxygen	ASTM D1946-90I1B1634	0.50	20	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B1634	0.10	1.9	1	2/16/01	2/16/01		
Carbon Monoxide	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Methane	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Nitrogen	ASTM D1946-90I1B1634	1.0	78	1	2/16/01	2/16/01		
Oxygen	ASTM D1946-90I1B1634	0.50	20	1	2/16/01	2/16/01		
<b>Sample ID: IKB0599-03 (COMB. INF. - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1B1634	0.10	1.6	1	2/16/01	2/16/01		
Carbon Monoxide	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Methane	ASTM D1946-90I1B1634	0.10	ND	1	2/16/01	2/16/01		
Nitrogen	ASTM D1946-90I1B1634	1.0	78	1	2/16/01	2/16/01		
Oxygen	ASTM D1946-90I1B1634	0.50	21	1	2/16/01	2/16/01		

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 Project Manager

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England Geosystem Inc.  
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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1B1624 Extracted: 02/16/01

**Blank Analyzed: 02/16/01 (I1B1624-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 02/16/01 (I1B1624-BS1)**

Benzene	57.9	5.0	mg/m <sup>3</sup>	52.8		110	70-130			
Toluene	56.9	5.0	mg/m <sup>3</sup>	52.8		108	70-130			
Ethylbenzene	56.2	5.0	mg/m <sup>3</sup>	52.8		106	70-130			
Total Xylenes	173	5.0	mg/m <sup>3</sup>	158		109	70-130			
Methyl-tert-butyl Ether (MTBE)	54.8	5.0	mg/m <sup>3</sup>	53.9		102	70-130			

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1B1624 Extracted: 02/16/01</u>									
Blank Analyzed: 02/16/01 (I1B1624-BLK1)									
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv						QV
Benzene ppmv	ND	1.6	ppmv						
Toluene ppmv	ND	1.3	ppmv						
Ethylbenzene ppmv	ND	1.2	ppmv						
Xylenes, Total ppmv	ND	1.2	ppmv						
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

### METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	-----------	-------------	---------	-----------	-----------------

Batch: I1B1634 Extracted: 02/16/01

**Blank Analyzed: 02/16/01 (I1B1634-BLK1)**

Carbon Dioxide	ND	0.10	%
Carbon Monoxide	ND	0.10	%
Methane	ND	0.10	%
Nitrogen	78.2	1.0	%
Oxygen	21.8	0.50	%

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Work Auth. # 25610-01  
Report Number: IKB0599

Sampled: 02/15/01  
Received: 02/16/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
Pat Abe  
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**IKB0599 <Page 8 of 8>**

**ARCO Products Company**

Division of Atlantic Richfield Company

**Task Order No.** 25610-01

**Chain of Custody**

ARCO Facility no.	3023	City (Facility)	Anaheim	Project manager (Consultant)	Fabio Minervini	Laboratory name	<u>Del Mar</u>
ARCO engineer	T. Brown	Telephone no. (ARCO)	—	Telephone no. (Consultant)	949-453-8085	Fax no. (Consultant)	949-453-0733
Consultant name	England Geosystem	Address (Consultant)	15375 Barranca Pkwy. #F-106 Irvine, CA 92618	Contract number	07D073	Method of shipment	<u>Courier</u>
Matrix	Preservation			Sampling date	Sampling time	Special detection	
	Soil	Water	Other	Ice	Acid	Limit/reporting	
VW-2	1			✓	2-15-1 0600	✓	
VW-H	1			✓	2-15-1 0600	✓	
COMB. INE.	1			✓	2-15-1 0600	✓	
				Air	(TPH) H101		
Condition of sample:	<u>Intact</u>			Temperature received: <u>72° C</u>			
Relinquisished by sampler:	<u>Donald Brown</u>			Date	Time Received by	Rush	
Relinquisished by receiver:	<u>John Schreier</u>			Date	Time Received by	2 Business Days	
Relinquisished by:				Date	Time Received by laboratory	Expedited	
				Date	Time Received by	5 Business Days	
				Date	Time	Standard	10 Business Days



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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 12/06/00  
Received: 12/06/00  
Revised: 12/14/00

*This laboratory report is confidential and is intended for the sole use of  
Del Mar Analytical and its client. This entire report was reviewed and approved for release.*

CA ELAP Certificate #1197  
AZ DHS License #AZ0428

A handwritten signature in black ink, appearing to read "Pat Abe".

**Del Mar Analytical, Irvine**  
Pat Abe  
Project Manager

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim

Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

## VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IJL0204-01 (VW-1 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL0728	10	ND	1	12/7/00	12/7/00		QG
Benzene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Toluene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Ethylbenzene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Total Xylenes	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
<b>Sample ID: IJL0204-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL0728	10	3600	1	12/7/00	12/7/00		QG
Benzene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Toluene	EPA 8015B/8021 IOL0728	5.0	12	1	12/7/00	12/7/00		
Ethylbenzene	EPA 8015B/8021 IOL0728	5.0	41	1	12/7/00	12/7/00		
Total Xylenes	EPA 8015B/8021 IOL0728	5.0	320	1	12/7/00	12/7/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
<b>Sample ID: IJL0204-03 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL0728	10	1100	1	12/7/00	12/7/00		QG
Benzene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Toluene	EPA 8015B/8021 IOL0728	5.0	27	1	12/7/00	12/7/00		
Ethylbenzene	EPA 8015B/8021 IOL0728	5.0	7.7	1	12/7/00	12/7/00		
Total Xylenes	EPA 8015B/8021 IOL0728	5.0	87	1	12/7/00	12/7/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		

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England Geosystem Inc.  
15375 B aranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m <sup>3</sup>	mg/m <sup>3</sup>				
<b>Sample ID: IJL0204-04 (Comb. In. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL0728	10	1700	1	12/7/00	12/7/00		QG
Benzene	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		
Toluene	EPA 8015B/8021 IOL0728	5.0	15	1	12/7/00	12/7/00		
Ethylbenzene	EPA 8015B/8021 IOL0728	5.0	16	1	12/7/00	12/7/00		
Total Xylenes	EPA 8015B/8021 IOL0728	5.0	140	1	12/7/00	12/7/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL0728	5.0	ND	1	12/7/00	12/7/00		

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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ppmv	ppmv				
<b>Sample ID: IJL0204-01 (VW-1 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL0728		2.4	ND	1	12/7/00	12/7/00	QV
Benzene ppmv	EPA 8015B/8021 IOL0728		1.6	ND	1	12/7/00	12/7/00	
Toluene ppmv	EPA 8015B/8021 IOL0728		1.3	ND	1	12/7/00	12/7/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL0728		1.2	ND	1	12/7/00	12/7/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL0728		1.2	ND	1	12/7/00	12/7/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL0728		1.4	ND	1	12/7/00	12/7/00	
<b>Sample ID: IJL0204-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL0728		2.4	870	1	12/7/00	12/7/00	QV
Benzene ppmv	EPA 8015B/8021 IOL0728		1.6	ND	1	12/7/00	12/7/00	
Toluene ppmv	EPA 8015B/8021 IOL0728		1.3	3.1	1	12/7/00	12/7/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL0728		1.2	9.3	1	12/7/00	12/7/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL0728		1.2	73	1	12/7/00	12/7/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL0728		1.4	ND	1	12/7/00	12/7/00	
<b>Sample ID: IJL0204-03 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL0728		2.4	280	1	12/7/00	12/7/00	QV
Benzene ppmv	EPA 8015B/8021 IOL0728		1.6	ND	1	12/7/00	12/7/00	
Toluene ppmv	EPA 8015B/8021 IOL0728		1.3	7.2	1	12/7/00	12/7/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL0728		1.2	1.8	1	12/7/00	12/7/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL0728		1.2	20	1	12/7/00	12/7/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL0728		1.4	ND	1	12/7/00	12/7/00	

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample	Dilution	Date	Date	Data
			Limit	Result	Factor	Extracted	Analyzed	Qualifiers
			ppmv	ppmv				
<b>Sample ID: IJL0204-04 (Comb. In. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL0728		2.4	420	1	12/7/00	12/7/00	QV
Benzene ppmv	EPA 8015B/8021 IOL0728		1.6	ND	1	12/7/00	12/7/00	
Toluene ppmv	EPA 8015B/8021 IOL0728		1.3	4.0	1	12/7/00	12/7/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL0728		1.2	3.7	1	12/7/00	12/7/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL0728		1.2	32	1	12/7/00	12/7/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL0728		1.4	ND	1	12/7/00	12/7/00	

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			%	%				
<b>Sample ID: IJL0204-01 (VW-1 - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL0730	0.10	8.0	1	12/7/00	12/8/00		
Carbon Monoxide	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Methane	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Nitrogen	ASTM D1946-90IOL0730	1.0	74	1	12/7/00	12/8/00		
Oxygen	ASTM D1946-90IOL0730	0.50	18	1	12/7/00	12/8/00		
<b>Sample ID: IJL0204-02 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL0730	0.10	5.5	1	12/7/00	12/8/00		
Carbon Monoxide	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Methane	ASTM D1946-90IOL0730	0.10	0.13	1	12/7/00	12/8/00		
Nitrogen	ASTM D1946-90IOL0730	1.0	78	1	12/7/00	12/8/00		
Oxygen	ASTM D1946-90IOL0730	0.50	17	1	12/7/00	12/8/00		
<b>Sample ID: IJL0204-03 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL0730	0.10	2.5	1	12/7/00	12/8/00		
Carbon Monoxide	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Methane	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Nitrogen	ASTM D1946-90IOL0730	1.0	77	1	12/7/00	12/8/00		
Oxygen	ASTM D1946-90IOL0730	0.50	21	1	12/7/00	12/8/00		
<b>Sample ID: IJL0204-04 (Comb. In. - Air)</b>								
Carbon Dioxide	ASTM D1946-90IOL0730	0.10	4.8	1	12/7/00	12/8/00		
Carbon Monoxide	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Methane	ASTM D1946-90IOL0730	0.10	ND	1	12/7/00	12/8/00		
Nitrogen	ASTM D1946-90IOL0730	1.0	76	1	12/7/00	12/8/00		
Oxygen	ASTM D1946-90IOL0730	0.50	19	1	12/7/00	12/8/00		

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD RPD	Data Limit	Data Qualifiers
---------	--------	-----------------	-------	-------------	---------------	------	-------------	---------	------------	-----------------

Batch: I0L0728 Extracted: 12/07/00

**Blank Analyzed: 12/07/00 (I0L0728-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>							QG
Benzene	ND	5.0	mg/m <sup>3</sup>							
Toluene	ND	5.0	mg/m <sup>3</sup>							
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>							
Total Xylenes	ND	5.0	mg/m <sup>3</sup>							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>							

**LCS Analyzed: 12/07/00 (I0L0728-BS1)**

Benzene	43.9	5.0	mg/m <sup>3</sup>	52.8		83.1	70-130			
Toluene	42.1	5.0	mg/m <sup>3</sup>	52.8		79.7	70-130			
Ethylbenzene	41.6	5.0	mg/m <sup>3</sup>	52.8		78.8	70-130			
Total Xylenes	132	5.0	mg/m <sup>3</sup>	158		83.5	70-130			
Methyl-tert-butyl Ether (MTBE)	45.8	5.0	mg/m <sup>3</sup>	53.9		85.0	70-130			

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Pat Abe  
Project Manager

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	Data Limit	Qualifiers
<u>Batch: IJL0728 Extracted: 12/07/00</u>										
Blank Analyzed: 12/07/00 (IJL0728-BLK1)										
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							QV
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

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Sampled: 12/06/00  
Received: 12/06/00

### METHOD BLANK/QC DATA

#### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: IOL0730 Extracted: 12/07/00</u>										
Blank Analyzed: 12/08/00 (IOL0730-BLK1)										
Carbon Dioxide	ND	0.10	%							
Carbon Monoxide	ND	0.10	%							
Methane	ND	0.10	%							
Nitrogen	77.8	1.0	%							
Oxygen	22.2	0.50	%							

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England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
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Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0204

Sampled: 12/06/00  
Received: 12/06/00

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 12/13/00  
Received: 12/14/00  
Reported: 12/18/00

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IJL0574

Sampled: 12/13/00  
 Received: 12/14/00

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			mg/m³	mg/m³				
<b>Sample ID: IJL0574-01 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL1427	10	750	1	12/14/00	12/14/00		QG
Benzene	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
Toluene	EPA 8015B/8021 IOL1427	5.0	6.5	1	12/14/00	12/14/00		
Ethylbenzene	EPA 8015B/8021 IOL1427	5.0	12	1	12/14/00	12/14/00		
Total Xylenes	EPA 8015B/8021 IOL1427	5.0	75	1	12/14/00	12/14/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
<b>Sample ID: IJL0574-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL1427	10	2300	1	12/14/00	12/14/00		QG
Benzene	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
Toluene	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
Ethylbenzene	EPA 8015B/8021 IOL1427	5.0	26	1	12/14/00	12/14/00		
Total Xylenes	EPA 8015B/8021 IOL1427	5.0	190	1	12/14/00	12/14/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
<b>Sample ID: IJL0574-03 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 IOL1427	10	580	1	12/14/00	12/14/00		QG
Benzene	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		
Toluene	EPA 8015B/8021 IOL1427	5.0	6.6	1	12/14/00	12/14/00		
Ethylbenzene	EPA 8015B/8021 IOL1427	5.0	9.2	1	12/14/00	12/14/00		
Total Xylenes	EPA 8015B/8021 IOL1427	5.0	59	1	12/14/00	12/14/00		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 IOL1427	5.0	ND	1	12/14/00	12/14/00		

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 Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Report Number: IJL0574

Sampled: 12/13/00  
 Received: 12/14/00

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			ppmv	ppmv				
<b>Sample ID: IJL0574-01 (Totalization - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL1427		2.4	180	1	12/14/00	12/14/00	QV
Benzene ppmv	EPA 8015B/8021 IOL1427		1.6	ND	1	12/14/00	12/14/00	
Toluene ppmv	EPA 8015B/8021 IOL1427		1.3	1.7	1	12/14/00	12/14/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL1427		1.2	2.7	1	12/14/00	12/14/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL1427		1.2	17	1	12/14/00	12/14/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL1427		1.4	ND	1	12/14/00	12/14/00	
<b>Sample ID: IJL0574-02 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL1427		2.4	570	1	12/14/00	12/14/00	QV
Benzene ppmv	EPA 8015B/8021 IOL1427		1.6	ND	1	12/14/00	12/14/00	
Toluene ppmv	EPA 8015B/8021 IOL1427		1.3	ND	1	12/14/00	12/14/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL1427		1.2	6.1	1	12/14/00	12/14/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL1427		1.2	43	1	12/14/00	12/14/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL1427		1.4	ND	1	12/14/00	12/14/00	
<b>Sample ID: IJL0574-03 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 IOL1427		2.4	140	1	12/14/00	12/14/00	QV
Benzene ppmv	EPA 8015B/8021 IOL1427		1.6	ND	1	12/14/00	12/14/00	
Toluene ppmv	EPA 8015B/8021 IOL1427		1.3	1.8	1	12/14/00	12/14/00	
Ethylbenzene ppmv	EPA 8015B/8021 IOL1427		1.2	2.1	1	12/14/00	12/14/00	
Xylenes, Total ppmv	EPA 8015B/8021 IOL1427		1.2	14	1	12/14/00	12/14/00	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 IOL1427		1.4	ND	1	12/14/00	12/14/00	

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England Geosystem Inc.  
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Irvine, CA 92618  
Attention: Fabio Minervini

Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0574

Sampled: 12/13/00  
Received: 12/14/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<b>Batch: I0L1427 Extracted: 12/14/00</b>										
Blank Analyzed: 12/14/00 (I0L1427-BLK1)										QG
Volatile Fuel Hydrocarbons	ND	10	mg/m³							
Benzene	ND	5.0	mg/m³							
Toluene	ND	5.0	mg/m³							
Ethylbenzene	ND	5.0	mg/m³							
Total Xylenes	ND	5.0	mg/m³							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m³							
LCS Analyzed: 12/14/00 (I0L1427-BS1)										
Benzene	46.9	5.0	mg/m³	52.8		88.8	70-130			
Toluene	45.1	5.0	mg/m³	52.8		85.4	70-130			
Ethylbenzene	45.0	5.0	mg/m³	52.8		85.2	70-130			
Total Xylenes	139	5.0	mg/m³	158		88.0	70-130			
Methyl-tert-butyl Ether (MTBE)	48.6	5.0	mg/m³	53.9		90.2	70-130			

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0574

Sampled: 12/13/00  
Received: 12/14/00

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	RPD Limits	RPD RPD	Data Qualifiers
<u>Batch: IOL1427 Extracted: 12/14/00</u>									
Blank Analyzed: 12/14/00 (IOL1427-BLK1)									QV
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv						
Benzene ppmv	ND	1.6	ppmv						
Toluene ppmv	ND	1.3	ppmv						
Ethylbenzene ppmv	ND	1.2	ppmv						
Xylenes, Total ppmv	ND	1.2	ppmv						
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv						

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Client Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Report Number: IJL0574

Sampled: 12/13/00  
Received: 12/14/00

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

**Del Mar Analytical, Irvine**  
Pat Abe  
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## LABORATORY REPORT

Prepared For: England Geosystem Inc.  
15375 Barranca Pkwy., Suite F-106  
Irvine, CA 92618

Attention: Fabio Minervini  
Project: ARCO 3023, Anaheim  
Work Auth. # 25610-01

Sampled: 03/07/01  
Received: 03/08/01  
Reported: 03/14/01

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England Geosystem Inc.  
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 Attention: Fabio Minervini

Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Rpt. Number: IKC0306

Sampled: 03/07/01  
 Received: 03/08/01

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample	Dilution	Date	Date	Data
			Limit	Result	Factor	Extracted	Analyzed	Qualifiers
			mg/m <sup>3</sup>	mg/m <sup>3</sup>				
<b>Sample ID: IKC0306-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1C0829	10	180	1	3/8/01	3/8/01		QG
Benzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Toluene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Ethylbenzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Total Xylenes	EPA 8015B/8021 I1C0829	5.0	10	1	3/8/01	3/8/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
<b>Sample ID: IKC0306-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1C0829	10	38	1	3/8/01	3/8/01		QG
Benzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Toluene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Ethylbenzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Total Xylenes	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
<b>Sample ID: IKC0306-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons	EPA 8015B/8021 I1C0829	10	52	1	3/8/01	3/8/01		QG
Benzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Toluene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Ethylbenzene	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Total Xylenes	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		
Methyl-tert-butyl Ether (MTBE)	EPA 8015B/8021 I1C0829	5.0	ND	1	3/8/01	3/8/01		

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Rpt. Number: IKC0306

Sampled: 03/07/01  
 Received: 03/08/01

## VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Method	Batch	Reporting	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
			Limit		ppmv	ppmv		
<b>Sample ID: IKC0306-01 (VW-2 - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1C0829		2.4	43	1	3/8/01	3/8/01	QV
Benzene ppmv	EPA 8015B/8021 I1C0829		1.6	ND	1	3/8/01	3/8/01	
Toluene ppmv	EPA 8015B/8021 I1C0829		1.3	ND	1	3/8/01	3/8/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1C0829		1.2	ND	1	3/8/01	3/8/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1C0829		1.2	2.4	1	3/8/01	3/8/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1C0829		1.4	ND	1	3/8/01	3/8/01	
<b>Sample ID: IKC0306-02 (VW-H - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1C0829		2.4	9.2	1	3/8/01	3/8/01	QV
Benzene ppmv	EPA 8015B/8021 I1C0829		1.6	ND	1	3/8/01	3/8/01	
Toluene ppmv	EPA 8015B/8021 I1C0829		1.3	ND	1	3/8/01	3/8/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1C0829		1.2	ND	1	3/8/01	3/8/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1C0829		1.2	ND	1	3/8/01	3/8/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1C0829		1.4	ND	1	3/8/01	3/8/01	
<b>Sample ID: IKC0306-03 (COMB. INF. - Air)</b>								
Volatile Fuel Hydrocarbons ppmv	EPA 8015B/8021 I1C0829		2.4	13	1	3/8/01	3/8/01	QV
Benzene ppmv	EPA 8015B/8021 I1C0829		1.6	ND	1	3/8/01	3/8/01	
Toluene ppmv	EPA 8015B/8021 I1C0829		1.3	ND	1	3/8/01	3/8/01	
Ethylbenzene ppmv	EPA 8015B/8021 I1C0829		1.2	ND	1	3/8/01	3/8/01	
Xylenes, Total ppmv	EPA 8015B/8021 I1C0829		1.2	ND	1	3/8/01	3/8/01	
Methyl-tert-butyl Ether (MTBE) ppmv	EPA 8015B/8021 I1C0829		1.4	ND	1	3/8/01	3/8/01	

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England Geosystem Inc.  
 15375 Barranca Pkwy., Suite F-106  
 Irvine, CA 92618  
 Attention: Fabio Minervini

Project ID: ARCO 3023, Anaheim  
 Work Auth. # 25610-01  
 Rpt. Number: IKC0306

Sampled: 03/07/01  
 Received: 03/08/01

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Method	Batch	Reporting	Sample	Dilution	Date	Date	Data
			Limit	Result	Factor	Extracted	Analyzed	Qualifiers
			%	%				
<b>Sample ID: IKC0306-01 (VW-2 - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1C0857	0.10	1.8	1	3/8/01	3/9/01		
Carbon Monoxide	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Methane	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Nitrogen	ASTM D1946-90I1C0857	1.0	78	1	3/8/01	3/9/01		
Oxygen	ASTM D1946-90I1C0857	0.50	21	1	3/8/01	3/9/01		
<b>Sample ID: IKC0306-02 (VW-H - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1C0857	0.10	1.4	1	3/8/01	3/9/01		
Carbon Monoxide	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Methane	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Nitrogen	ASTM D1946-90I1C0857	1.0	78	1	3/8/01	3/9/01		
Oxygen	ASTM D1946-90I1C0857	0.50	21	1	3/8/01	3/9/01		
<b>Sample ID: IKC0306-03 (COMB. INF. - Air)</b>								
Carbon Dioxide	ASTM D1946-90I1C0857	0.10	1.2	1	3/8/01	3/9/01		
Carbon Monoxide	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Methane	ASTM D1946-90I1C0857	0.10	ND	1	3/8/01	3/9/01		
Nitrogen	ASTM D1946-90I1C0857	1.0	78	1	3/8/01	3/9/01		
Oxygen	ASTM D1946-90I1C0857	0.50	21	1	3/8/01	3/9/01		

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Attention: Fabio Minervini

Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Rpt. Number: IKC0306

Sampled: 03/07/01  
Received: 03/08/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS/BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1C0829 Extracted: 03/08/01

**Blank Analyzed: 03/08/01 (I1C0829-BLK1)**

Volatile Fuel Hydrocarbons	ND	10	mg/m <sup>3</sup>						QG
Benzene	ND	5.0	mg/m <sup>3</sup>						
Toluene	ND	5.0	mg/m <sup>3</sup>						
Ethylbenzene	ND	5.0	mg/m <sup>3</sup>						
Total Xylenes	ND	5.0	mg/m <sup>3</sup>						
Methyl-tert-butyl Ether (MTBE)	ND	5.0	mg/m <sup>3</sup>						

**LCS Analyzed: 03/08/01 (I1C0829-BS1)**

Benzene	52.9	5.0	mg/m <sup>3</sup>	52.8		100	70-130		
Toluene	51.9	5.0	mg/m <sup>3</sup>	52.8		98.3	70-130		
Ethylbenzene	50.8	5.0	mg/m <sup>3</sup>	52.8		96.2	70-130		
Total Xylenes	158	5.0	mg/m <sup>3</sup>	158		100	70-130		
Methyl-tert-butyl Ether (MTBE)	50.1	5.0	mg/m <sup>3</sup>	53.9		92.9	70-130		

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Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Rpt. Number: IKC0306

Sampled: 03/07/01  
Received: 03/08/01

### METHOD BLANK/QC DATA

### VOLATILE FUEL HYDROCARBONS with BTEX/MTBE in Air (EPA 8015B/8021B MOD.)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	%REC Limits	RPD RPD	RPD Limit	Data Qualifiers
<u>Batch: I1C0829 Extracted: 03/08/01</u>										
Blank Analyzed: 03/08/01 (I1C0829-BLK1)										QV
Volatile Fuel Hydrocarbons ppmv	ND	2.4	ppmv							
Benzene ppmv	ND	1.6	ppmv							
Toluene ppmv	ND	1.3	ppmv							
Ethylbenzene ppmv	ND	1.2	ppmv							
Xylenes, Total ppmv	ND	1.2	ppmv							
Methyl-tert-butyl Ether (MTBE) ppmv	ND	1.4	ppmv							

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Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Rpt. Number: IKC0306

Sampled: 03/07/01  
Received: 03/08/01

## METHOD BLANK/QC DATA

### FIXED GASES By GC/TCD (ASTM D1946-90)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC Limits	RPD RPD	RPD Limit	Data Qualifiers
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Batch: I1C0857 Extracted: 03/08/01

**Blank Analyzed: 03/09/01 (I1C0857-BLK1)**

Carbon Dioxide	ND	0.10	%
Carbon Monoxide	ND	0.10	%
Methane	ND	0.10	%
Nitrogen	77.8	1.0	%
Oxygen	22.2	0.50	%

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Project ID: ARCO 3023, Anaheim  
Work Auth. # 25610-01  
Rpt. Number: IKC0306

Sampled: 03/07/01  
Received: 03/08/01

## DATA QUALIFIERS AND DEFINITIONS

- QG** Carbon range C6-C12 quantitated against a gasoline standard.
- QV** The molecular weight of 100 was used to convert Volatile Fuel Hydrocarbons from mg/m<sup>3</sup> to ppm by volume (ppmv).
- ND** Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
- NR** Not reported.
- RPD** Relative Percent Difference

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**ARCO Products Company**

Division of Atlantic Richfield Company

ARCO Facility no. 3023

City (Facility) ANAHEIM

Telephone no. —

(ARCO)

Consultant name T. Brown

Consultant name ENGLAND GEOSYSTEM

Task Order No. 25610 - 01 ✓ 3/16/01

**Chain of Custody**

		Project manager (Consultant)		Telephone no. (Consultant)		Fax no. (Consultant)		Laboratory name	
ARCO Facility no. 3023		Fabio MINEVSKI		949-453-8085		949-453-0733		De Mar	
ARCO engineer T. Brown								Contract number	
Consultant name ENGLAND GEOSYSTEM								07073	
						Method of shipment			
		COURIER							